

AD-A127 143 ARCHAEOLOGICAL DATA RECOVERY IN THE ABIQUIU RESERVOIR
MULTIPLE RESOURCE AREA NEW MEXICO(U) NICKENS AND
ASSOCIATES MONTROSE CO A D REED ET AL. SEP 82

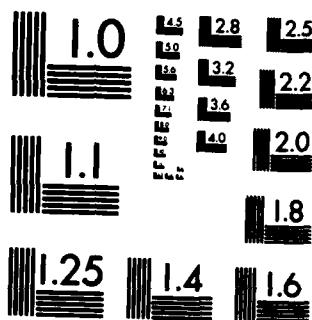
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NEW MEXICO

by

Alan D. Reed
Susan M. Chandler
Kim Kreutzer
and
Diana Christensen

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September 1982

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Under the Supervision of

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Principal Investigator

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16. Abstract (Limit: 200 words) Between April 26 and May 7, 1982, personnel from Nickens and Associates of Montrose, Colorado, conducted limited data recovery at 98 cultural resources in the Abiquiu Reservoir Multiple Resource Area. The work was conducted at the behest of the Department of Interior National Park Service, with funds transferred from the U.S. Army Corps of Engineers, for the purpose of developing a management plan for sites in the project area. Due to time and budgetary constraints, the scope-of-work had divided the 244 sites requiring data into six priority groups, based on types of potential project impacts and types of data required. The scope-of-work required that data recovery focus on the higher priority groups, and that investigations of a sample of the sites in the lower priority groups would be appropriate. Specific tasks to be conducted at each site, such as site staking, site mapping, general description, and determinations of site depth, integrity, and dating and subsistence potential, were included in the scope-of-work. Nickens and Associates personnel attempted to relocate and stake all 244 sites, complete tasks at the 77 sites in the higher priority groups, and complete tasks at at least 10% of the lower priority sites. By project's end, tasks had been completed at 98 sites, and an additional 121 sites were staked. Management recommendations were formulated for the 98 sites investigated.				13. Type of Report & Period Covered	
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Frontispiece. View of Abiquiu Reservoir.

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FOREWORD

The Abiquiu Dam and Reservoir, located in northern New Mexico in portions of Rio Arriba County along the Chama River, were completed in 1963 as a flood and sediment control feature. Currently, the Abiquiu Reservoir area consists of 14,121 acres of land administered by the United States Army Corps of Engineers, Albuquerque District. In addition to its flood and sediment control function, the reservoir is also being studied as to the feasibility of establishing a conservation pool which would store up to 200,000 acre-feet of water.

The area of operation for the reservoir, designated as the Abiquiu Reservoir Multiple Resource Area, has been determined to contain some 343 archaeological sites, of which 277 have been determined to be eligible for the National Register of Historic Places. Many of these sites along the shoreline of the reservoir have suffered adverse impacts, principally from fluctuations in the shoreline as floodwaters are stored and released. In addition to these ongoing impacts, further damage to sites will probably occur as they are inundated by the proposed conservation pool.

To comply with existing historic preservation regulations, the Corps of Engineers has decided to formulate a management plan which would contain two elements oriented toward protection of archaeological sites and data within the Abiquiu Reservoir Multiple Resource Area. First, the plan would insure that full range of cultural resources contained within the reservoir area be preserved for future generations through such procedures as stabilization, protection, and redesign of projects which would result in adverse impacts to sites. The second element of the management plan will be a mitigation or data recovery plan in which a sample of archaeological sites representing a full range of settlement and subsistence activities or cultural/temporal period are investigated.

Prior to preparation of the Abiquiu management plan, the Corps of Engineers considered it necessary to accumulate additional field data for the previously recorded archaeological sites and contracted (through the National Park Service) with Nickens and Associates, Montrose, Colorado, to provide these data. The report by Alan D. Reed and his co-workers, describes the laboratory and field tactics utilized to select sites for revisitation and make field inspections, and the results of these efforts. The document furnishes the primary site data necessary to design the data recovery program by recommending the potential for sites to provide information on chronometric data, subsistence activities, site function, and definition of intrasite activity loci. In addition, management estimates are made with respect to the need for and conduct of future investigations at individual sites. A considerable amount of primary field data has been amassed as a result of the project, all of which will be placed on file with the Corps of Engineers. These materials include field notes, daily logs, revisions to previously recorded information, maps, and photographs.

This report represents the culmination of an effort on the part of the Corps of Engineers to review and compile archaeological data which have accumulated through a series of contractual agreements with the School of American Research between 1974 and 1980. In addition to an in-house effort by the Corps of Engineers, this work has included an extensive review of all project records by the Division of Conservation Archaeology, which resulted in a critical evaluation of the existing data. The additional field information provided in this report will allow recommendations for preservation or mitigation of specific archaeological sites to be included in the management plan and eventual compliance with requirements with the Advisory Council on Historic Preservation's regulation 36 CFR 800.

Paul R. Nickens

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The authors wish to express their gratitude to a number of people who contributed time and effort to this project. Ms. Jan Biella of the U.S. Army Corps of Engineers and Mr. John D. Beal of the School of American Research provided data and valuable assistance. As the result of a field visit, Mr. Mark Barnes and Ms. Margaret Pepin-Donat provided timely advice on the progress of the project. Mr. Robert Faucet of the Corps of Engineers at Abiquiu Dam provided assistance to the field crews. Ghost Ranch personnel were very helpful - especially Mr. James Shibley who helped the field crews gain access to project lands and Mr. John "Willey" Picaro who spent one half day assisting a field crew with their tasks.

Extra efforts by Nickens and Associates personnel insured the timely completion of this project. The fieldwork was conducted by Susan Chandler, Diana Christensen, Susan Eininger, Joan Gaunt, Jeff Jennings, Kim Kreutzer, Alan D. Reed, Igor Steel, Patty Tobin, and Jo Winship. Alan D. Reed served as Field Director and Co-Principal Investigator for the project and Dr. Paul R. Nickens served as Principal Investigator. Dorothy Floyd and Kelle Mitchell provided clerical assistance.

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TECHNICAL ABSTRACT

Between April 26 and May 7, 1982, personnel from Nickens and Associates of Montrose, Colorado, conducted limited data recovery at 98 cultural resources in the Abiquiu Reservoir Multiple Resource Area. The work was conducted at the behest of the Department of Interior National Park Service, with funds transferred from the U.S. Army Corps of Engineers, for the purpose of developing a management plan for sites in the project area. Due to time and budgetary constraints, the scope-of-work had divided the 244 sites requiring data into six priority classes, based on types of potential project impacts and types of data required. The scope-of-work required that data recovery focus on the higher priority groups, and that investigations of a sample of the sites in the lower priority groups would be appropriate. Specific tasks to be conducted at each site, such as site staking, site mapping, general description, and determinations of site depth, integrity, and dating and subsistence potential, were included in the scope-of-work. These tasks were specifically formulated to assess site potential for yielding chronometric and subsistence data, site function information, and intrasite artifact distribution data; lines of data identified by the New Mexico State Historic Preservation Bureau, the Advisory Council on Historic Preservation, and the U.S. Army Corps of Engineers as critical for the development of the management plan/research design for the Abiquiu Reservoir Multiple Resource Area. Proposed impacts include long-term inundation, episodic inundation, construction activities, and increased visitation by people engaged in recreational activities at the reservoir. Sites in areas possibly subjected to inundation or construction activities were, based upon integrity, surface attributes, and potential impacts, generally recommended for additional data recovery efforts. The recommended work included systematic surface collections, test excavations, and precise mapping. Sites in areas that will not be directly affected by inundation or construction activities were generally recommended for preservation, and periodic monitoring by an archaeologist to assess the effects of erosion and increased visitation. Nickens and Associates personnel attempted to relocate and stake at 244 sites, complete tasks at the 77 sites in the higher priority groups, and complete tasks at at least 10% of the lower priority sites. By project's end, tasks had been completed at 98 sites, and an additional 121 lower priority sites were staked. Nine percent of the sites could not be relocated. Sixteen percent of the lower priority groups had been investigated. Management recommendations for the 98 sites investigated were formulated, based upon the results of the data recovery program and previous archaeological work. Estimates of the person-hours required to complete the recommended research were formulated, and a list of ten very important sites was presented.

MANAGEMENT SUMMARY

Between April 26 and May 7, 1982, personnel from Nickens and Associates of Montrose, Colorado, conducted limited data recovery at 98 cultural resources in the Abiquiu Reservoir Multiple Resource Area. The work was conducted at the behest of the Department of Interior National Park Service, with funds transferred from the U.S. Army Corps of Engineers, for the purpose of developing a management plan for sites in the project area. Due to time and budgetary constraints, the scope-of-work had divided the 244 sites requiring data into six priority classes, based on types of potential project impacts and types of data required. The scope-of-work required that data recovery focus on the higher priority groups, and that investigations of a sample of the sites in the lower priority groups would be appropriate. Specific tasks to be conducted at each site, such as site staking, site mapping, general description, and determinations of site depth, integrity, and dating and subsistence potential, were included in the scope-of-work. Nickens and Associates personnel attempted to relocate and stake all 244 sites, complete tasks at the 77 sites in the higher priority groups, and complete tasks at at least 10% of the lower priority sites. By project's end, tasks had been completed at 98 sites, and an additional 121 of the lower priority sites were staked. Nine percent of the sites, or a total of 22, could not be relocated. Sixteen percent of the lower priority groups had been investigated. Management recommendations for the 98 sites investigated were formulated, and are herein presented, based upon the results of the data recovery program and previous archaeological work. While the goal in the formulation of management recommendations was site preservation, this management option was often precluded by the nature of the planned development. In these cases, additional data recovery techniques were suggested, based upon expected impacts and site potential. Estimates of the person-hours required to complete the recommended research are included. Lastly, a list of ten very important sites is presented, as well as suggestions for future research designs.

CHAPTER I

INTRODUCTION

General

The Abiquiu Reservoir Restudy and Management Program was conducted by Nickens and Associates of Montrose, Colorado, under contract to the National Park Service with funds transferred from the United States Army Corps of Engineers. The purpose of the project was to develop a management plan for archaeological sites in the Abiquiu Reservoir Multiple Resource Area. The work was undertaken in order to comply with the Advisory Council on Historic Preservation's Regulations (36CFR800), and to obtain additional field data with which to make recommendations for preservation or mitigation of specific sites to be included in the management plan.

The Abiquiu Reservoir Multiple Resource Area is located in northern New Mexico along the Chama River, in the south-central portion of Rio Arriba County (Fig. 1). According to the scope-of-work, boundaries for the Multiple Resource Area have been arbitrarily chosen to coincide with the operation of Abiquiu Dam and Reservoir, a flood control project. All lands below a 6362 ft. maximum pool contour and all Corps of Engineers fee lands above that elevation are included. The multiple resource area contains 275 prehistoric and historic sites which are eligible to the National Register of Historic Places.

For the purposes of the restudy and management plan, sites were organized into 11 groups on the basis of data gaps from prior projects and anticipated impacts from the reservoir operation. These groups include only 244 sites, and omit excavated ruins and sites destroyed by inundation. The 11 groups were in turn organized into six management groups which were assigned priorities. An attempt was made to relocate and stake all 244 sites, and specific field tasks ranging from site mapping, integrity determinations, artifact density studies and test excavations aimed at discerning potential for depth, dating and subsistence data recovery were completed on a subset of sites, based on priority group membership. Tasks were completed for all Priority 1 and 2 sites which could be located (a total of 72) and for a sample of the lower priority--Priorities 3 through 6--sites (a total of 26) during a fieldwork phase lasting from April 26 to May 7, 1982.

Environmental Setting

The Abiquiu Reservoir project area is situated in the Piedra Lumbre Valley along the Rio Chama (Fig. 2). The Piedra Lumbre Valley is considered to be an eastern extension of the Colorado Plateau. In the immediate reservoir area the valley is characterized by a canyon cut through Triassic Chinle sandstone and Abo sandstones and mudstones of Permian age. Uplifted sedimentary formations in the valley area range from Paleozoic to Mesozoic to Tertiary in age. Tertiary volcanic

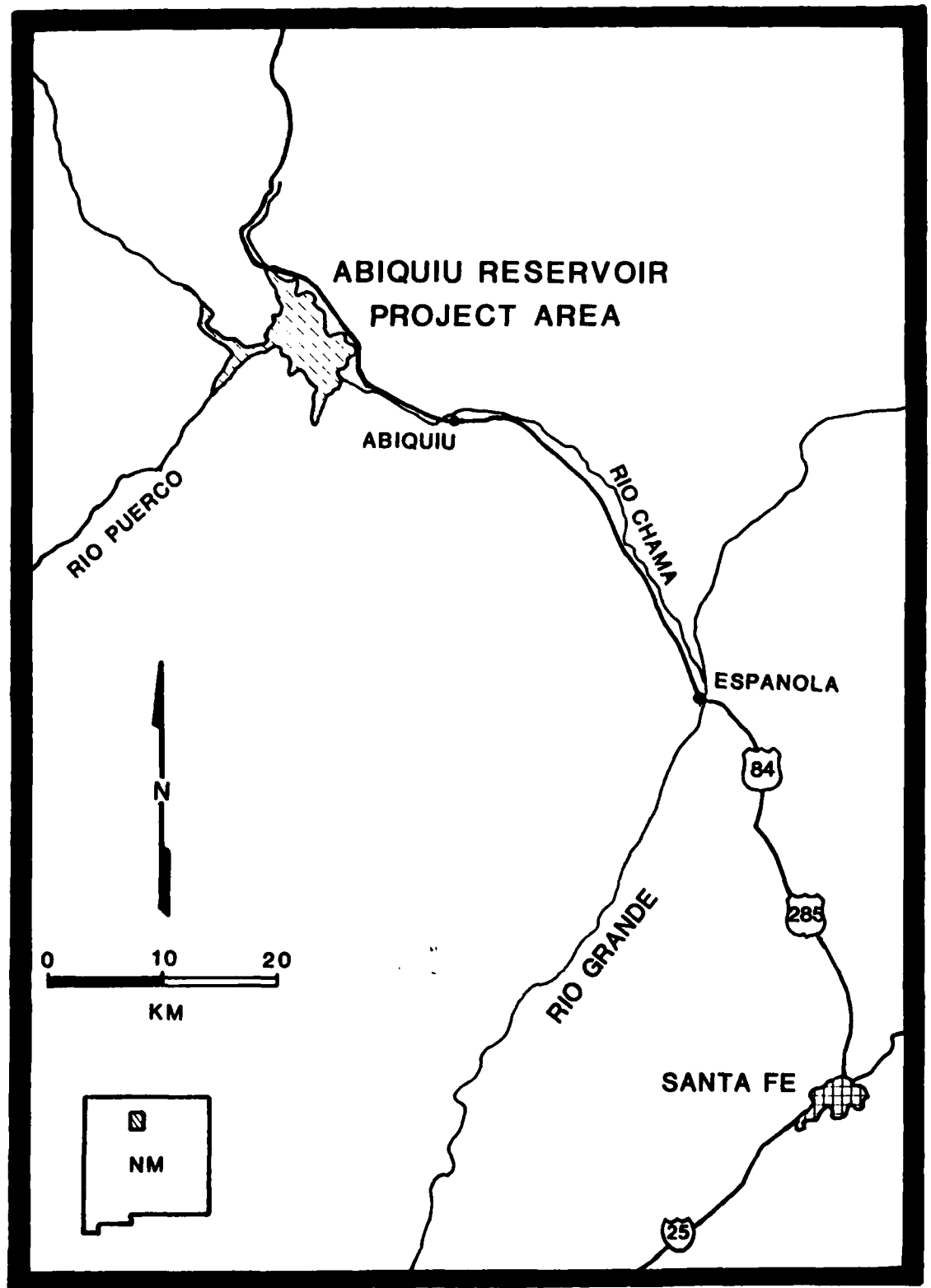


Figure 1. Location of the Abiquiu Reservoir Project Area.



Figure 2. View looking upstream at the Chama River and environs.

activity is represented south of the valley by the presence of the Jemez Mountains.

The canyon in which Abiquiu Dam is located ranges from 100 ft. (30 m) to 400 ft. (122 m) in depth and 300 ft. (91 m) to 1500 ft. (475 m) in width. The elevation of the Chama River at the dam site is 6000 ft. (1829 m). Twenty miles northwest, upstream from the dam, the elevation of the river at the point of the maximum flood pool is 6362 ft. (1939 m). Gravel terraces of Pleistocene origin can be found along the Rio Chama and its permanent tributaries, the Rio Puerco, Arroyo Seco, and Canones Creek.

Abiquiu Reservoir is located in a semi-arid climatic zone. Precipitation ranges from 10-14 inches (254-356 mm) per year and the temperature averages 73°F in summer and 35°F in winter. The length of the frost-free growing season is between 140 to 160 days.

The vegetation present in the Abiquiu Reservoir project area is a result of the climatic zone in which the reservoir is located, but is also dependent upon elevation, slope, exposure, and soils. Communities range from short-grass prairie to pinyon-juniper woodland. Vegetation observed in the vicinity of Abiquiu includes Pinyon pine (Pinus edulis), juniper (Juniperus monosperma), a remnant stand of Ponderosa pine (Pinus monosperma ponderosa), various grasses, snakeweed (Gutierrezia sarothrae), rabbit brush (Chrysothamnus nauseosus), four-winged saltbush (Atriplex canescens), cocklebur, (Xanthium saccharatum), sagebrush (Artemisia spp.), lupine (Lupinus aduncus), sunflowers (Helianthus spp.), yucca (Yucca glauca), and various cacti (Opuntia spp.).

Fauna common in the project area includes mule deer (Odocoileus hemionus), Audubon cottontail (Sylvilagus auduboni), beaver (Castor canadensis), coyote (Canis latrans), Black-tailed jackrabbit (Lepus californicus), rock squirrel (Citellus variegatus), and prairie dog (Cynomys spp.). Birds observed by field personnel were various raptors, burrowing owl (Speotyto cunicularia), mourning dove (Zenaidura macroura), Cassin kingbird (Tyrannus vociferans), common nighthawk (Chordeiles minor), and broad-tailed hummingbird (Selasphorus platycercus).

Previous Archaeological Investigations

Archaeological studies began in the 1930s in the Abiquiu Reservoir area with ceramic studies by Mera and Hibben (Mera 1940) and the excavation of the Riana Ruin by Hibben (1937). In 1958, the Palisade Ruin, a Pueblo IV ruin, was excavated by the Museum of New Mexico in partnership with the School of American Research (Peckham 1959).

Systematized survey of the Abiquiu Reservoir area did not begin until 1974 when the School of American Research (SAR) began the work by surveying 2057 acres below the 6180 ft. contour line (Schaafsma 1974, 1975). In 1975, SAR surveyed ca. 11574 acres between the 6180 ft. and 6362 ft. contours (Schaafsma 1976). Finally, the survey was completed

in 1979 by the survey of 450 acres between the 6340 ft. to 6540 ft. contours which was also conducted by SAR (Klager 1980). According to the scope-of-work, these surveys by SAR recorded a total of 341 archaeological and historic sites.

The School of American Research has also been responsible for the testing and/or excavation of 85 sites during the period between 1974-1979 (Schaafsma 1975, 1976, 1977, 1979; Beal 1980). All of these sites were located below the 6362 ft. contour. Some of these sites are presently inundated.

Other work in the area includes the excavation of site AR-133 by William Perret (1980) and a study of the impacts of inundation on archaeological sites conducted by Schaafsma (1978).

Culture History

Data resulting from the above sources and others allow for construction of a generalized cultural sequence for the Abiquiu Reservoir project area. The earliest inhabitants were probably the big-game hunters of the Paleo-Indian Tradition. This tradition endured from approximately 11,000 B.C. to 5500 B.C., and represented an efficient adaptation exploiting terminal Pleistocene megafauna as well as various floral resources. People of the Paleo-Indian Tradition probably practiced transhumance, a non-sedentary lifestyle in which relatively small bands moved from maturing resource to maturing resource on a seasonal basis.

While Paleo-Indian sites are common in the central Rio Grande Valley in New Mexico (Judge 1973), they are evidently uncommon in the vicinity of the project area. According to the scope-of-work, three sites have been recorded in the project area that have yielded Paleo-Indian artifacts. One additional site, LA25462, can be added to that total as a result of the field investigations herein described. The Paleo-Indian materials recovered so far represent the Plano-Complex, the terminal Paleo-Indian culture.

Pleistocene environmental conditions gave way to modern conditions by approximately 5500 B.C., and the Paleo-Indian Tradition was supplanted by the Archaic Tradition. The Archaic Tradition is marked by a change in subsistence patterns and hence a change in material culture. Reliance on big-game hunting gave way to a more generalized hunting and gathering lifestyle, in which the gathering of vegetal foodstuffs increased in importance, and a greater variety of game, especially those smaller in size, were exploited. Artifact types characteristic on Archaic sites include large stemmed and indented base projectile points, certain styles of lanceolate projectile points, and large side and corner-notched projectile points. Also common to Archaic sites are one-hand manos and metates. Population appears to have increased during the Archaic Tradition, possibly necessitating the eventual exploitation of certain cultivated foods (Cohen 1977).

Cynthia Irwin-Williams has divided the Archaic Tradition of northwestern New Mexico into a number of phases, based upon data generated by survey and limited test excavations. The various phases make up Irwin-Williams' (1973) Oshara Tradition, the Four Corners region manifestation of the Archaic Tradition, and alleged precursor of the Anasazi culture. The first two phases of the Oshara Tradition are the Jay phase (5500 to 4800 B.C.) and the Bajada phase (4800 to 3200 B.C.). The material culture associated with these phases is so distinct from the Paleo-Indian tool assemblages that Irwin-Williams (1973:4) discounts any generic relationship between the two. The Jay and the Bajada phases were characterized by a subsistence pattern based on extensive foraging and hunting, and a relatively small population. Following the Bajada phase is the San Jose phase (3000 B.C. to 1800 B.C.), which is marked by an increase in the effective moisture in the Southwest. This phase is characterized by changes in settlement and subsistence patterns, allowing for a more intensive and systematic exploitation of resources. Population is believed to have increased during the San Jose phase. The Armijo phase (1800 B.C. to 800 B.C.) succeeded the San Jose phase, and witnessed additional changes in land use patterns, as maize agriculture was introduced, although on a limited basis, into the subsistence pattern. The exploitation of maize permitted enough food surplus to permit seasonal population aggregations, which in turn facilitated the development of various social interaction spheres. The En Medio phase (800 B.C. to A.D. 400) and subsequent phases of the Oshara Tradition mark the full transition from an Archaic lifestyle to the sedentary lifestyle of the Anasazi. The En Medio phase incorporates the Basketmaker II Period of the Anasazi culture, which will be discussed below.

Sites attributed to the Archaic Tradition are quite common in the Abiquiu Reservoir project area (e.g., Fig. 3). Most of the projectile points of Archaic Tradition affinity and radiocarbon dates processed so far indicate that Archaic occupation of the Chama Valley was most intense following 3000 B.C. (Schaafsma 1977).

The advent of the Anasazi Tradition (A.D. 1 to 1300) marks a major change in cultural adaptations over much of the Southwest, as the pattern of seasonal wandering in search of a variety of hunted and gathered foodstuffs gave way to a sedentary lifeway emphasizing the cultivation of corn, beans, and squash. For a variety of environmental and cultural reasons, as yet largely undefined, the Anasazi did not permanently inhabit the Abiquiu Reservoir project area until the early Fourteenth Century, and then for only a brief period of time. Between the Basketmaker II and Pueblo IV periods, the area appears to have been infrequently utilized by Anasazi peoples, and then on a temporary basis. No undisputed residential structures of Anasazi construction have been discovered in the project area before the Pueblo IV period, although many such sites occur in the region.

In the early portion of the Pueblo IV period, two large pueblos were constructed in the Abiquiu Reservoir project area. The Palisade Ruin (Fig. 4) constructed in A.D. 1312 to 1314, and the Riana Ruin, constructed approximately A.D. 1335, were both inhabited for only a matter of a few years, and were completely abandoned by A.D. 1350. The



Figure 3. Small overhang with wall at Site LA25336. This site is multicomponent with both Late Archaic and Navajo occupations represented.



Figure 4. Surface rooms at Palisade Ruin.



Figure 5. Navajo masonry structure at Site LA27020.

Tsiping Ruin, a not too distant pueblo near Canones constructed approximately the same time as the Palisade and Riana Ruins, was occupied well into the last half of the Fourteenth Century, when it too was abandoned.

Following the abandonment of the Abiquiu project area by the Pueblo Indians, the Athabaskan-speaking Navajo moved into the area from their original homelands in northwestern Canada and Alaska (Spencer and Jennings et al. 1977). The time of their arrival in the Southwest is uncertain, but may date to about A.D. 1500 according to linguistic and archaeological data (Hester 1962). The Navajo Tradition is commonly divided into three phases. The Dinetah phase is the first, and spans from the time of arrival in the Southwest to A.D. 1696. In this phase, the Navajo probably practiced a hunting and gathering economy, and had limited trading ties with the Pueblos. The Navajo lifestyle changed radically as a result of the arrival of the Spanish in the Southwest. The Spanish incurred two major revolutions by the Pueblo Indians, in 1680 and 1696. The latter revolt was unsuccessful, and forced numerous Pueblo Indians to flee northward to join the Navajo. The Navajo adopted many Puebloan traits as a result of the exposure, affecting their architecture, material culture, religion and social organization. The Navajo adopted animal husbandry during this period. These changes mark the Gobernador phase, which spans from A.D. 1696 to 1745.

The subsequent Cabezon or Refugee phase spans the period from A.D. 1745 to 1812. This period was marked by increased dependence on animal husbandry and a return to certain architectural styles (Klager 1980). Historic accounts indicate that the Navajo had abandoned the Chama Valley some time before A.D. 1700 (Schaafsma 1977), so this latter phase is probably not represented in the project area.

Archaeological investigations in the Abiquiu Reservoir project area indicate an intensive occupation by Navajos. Numerous sites, many with masonry structures (Fig. 5), lambing pens, and Rio Grande Pueblo pottery, are recorded in the project area, and are thought to represent both habitation and animal husbandry activities. A particularly large Navajo site, the Cerrito site, has been excavated by the School of American Research. The site dates between A.D. 1640 and 1710, and was the basis for Schaafsma's (1979) definition of the localized Navajo manifestation termed the Piedra Lumbre phase.

Following the abandonment of the project area by the Navajo, the area was intermittently utilized by the Ute, Comanches, and Jicarilla Apache (Schaafsma 1977). The Utes were the primary group to occupy the project area, however, attracted to the area by trade with Spanish settlements such as Abiquiu. By the early nineteenth century, the Utes began to settle in the Abiquiu area (Schaafsma 1977). Jicarilla Apache appeared in the area in 1852, attracted by the Indian Agency at Abiquiu. They were moved to an area approximately 10 miles west of Abiquiu on the Rio Puerco (Schaafsma 1977). In 1878, the U.S. Government moved the Utes to reservations in southern Colorado, and in 1881, the Apache were moved to the Jicarilla Reservation near Dulce, New Mexico (Schaafsma 1977). Ute sites are rather common in the

project area. They are characterized by tipi rings such as the one shown in Figure 6.

Spanish occupation of the project area began between 1750 and 1850. The success of the early efforts was primarily dependent upon the status of the relations with the Indians, who occasionally raided the Spanish settlements. After the removal of the Indians by the U.S. Government in 1881, Hispanic settlements in the area flourished. Numerous homesteads were established, where farming and ranching activities were conducted.

The Piedra Lumbre Valley is presently used primarily as rangeland for cattle, for flood control, and for recreation. Most cultural features are related to these uses. One important exception, however, is the remains of a Civilian Conservation Corps campsite north of the reservoir. While largely in ruins (Fig. 7), this horizontally extensive site represents an important facet of our national heritage.



Figure 6. Tipi ring at Site LA25481.



Figure 7. Structure with interior fireplace at CCC camp.

CHAPTER II

METHODOLOGY

General

The overall objective of our investigations was to recover site specific data which would facilitate the development of a management plan for 275 sites within the Abiquiu Reservoir Multiple Resource Area. According to the scope-of-work, personnel from the New Mexico State Historic Preservation Bureau, the Advisory Council on Historic Preservation, and the U.S. Army Corps of Engineers have considered developing such a management plan, and have suggested that it should: (1) insure the preservation of a broad range of cultural resources for future generations, and (2) insure the recovery of data from a sample of sites representing the full range of settlement and subsistence activities and the cultural/temporal groups that once occupied the area. This approach requires a thorough understanding of the project area's cultural resources, and hence a relatively strong data base.

Data generated by archaeological survey alone is often inadequate. The investigations herein described attempt to augment the data previously recorded at 98 historic and prehistoric sites, by determining the potential of certain sites to yield the desired functional, temporal, and cultural information. Specifically, the investigations attempt to assess site potential to yield the following types of information:

- (1) Chronometric data; including radiocarbon, dendrochronological, and obsidian hydration samples, and diagnostic artifacts;
- (2) Subsistence data, including macro-and micro-floral and faunal specimens;
- (3) Site function data; and
- (4) Intrasite activity loci, as based upon the distribution of artifacts.

It was not within the scope of this project to actually discern the cultural behaviors occurring at sites or to process scientific specimens such as radiocarbon samples. Rather, the objective was to determine the research potential of sites, and to provide the desired types of data listed above. This was accomplished by the execution of one or more small-scale data recovery tasks, which were specifically recommended for the sites by the National Park Service and U.S. Army Corps of Engineers. These tasks included site mapping, description, and, determination of site integrity and potential to yield dating and subsistence information.

Based upon the results of the limited data recovery tasks and previous research, recommendations were made for the 98 sites. In general, these recommendations fall within three broad categories: no additional work, additional data recovery, and preservation. Few sites

require no further archaeological investigation; those that fall into this category been destroyed by natural weathering, inundation, or other perturbations. Whether a site was recommended for further work or for preservation primarily depended upon the nature of projected impacts. A majority of the 98 sites investigated are located in impact units which may be subject to long-term or episodic inundation, or construction activities. Sites in areas of construction activities, such as in the area of the proposed Spillway Crest, will quite likely be completely destroyed by heavy equipment. Sites subjected to long-term inundation will be covered by tons of silt, will be exposed to short-term wave action, and may have certain site attributes, such as charcoal, macrofloral materials, and soil chemistry, altered or destroyed. Because of silt coverage, future recovery of present surface artifacts will be much more difficult. Episodic inundation may be more destructive to archaeological sites than long-term inundation, as repeated wave-action is particularly damaging to sites, especially those on slopes where surface artifacts are often transported, and topsoil is often eroded. Further, alternating wet and dry conditions can oxidize and so destroy pollen grains and perhaps other site constituents. A number of sites are located in areas away from the proposed construction and pool areas, where projected impacts will primarily be in the form of increased visitation by those engaged in recreational activities. These latter sites are generally recommended for preservation, and the former sites are generally recommended for additional data recovery efforts.

Recommendations for additional archaeological investigation primarily take the form of suggesting additional mapping and collecting of surface artifacts, and limited excavation. In some cases, the execution of the recommended work can constitute adequate mitigation of project impacts at a site; in others, however, it will hopefully permit the recovery of artifacts and ecofacts which will in turn allow the identification of site function and temporal/cultural affiliation, thereby providing sufficient information to evaluate the site in terms of a project-wide research design, and determine its place in an Abiquiu Reservoir Multiple Resource Area Management Plan.

Specific recommendations for future work were based upon a number of factors, including site integrity, previous investigations, projected impacts, and site attributes. Sites proposed for inundation or destruction by construction activities were usually recommended for additional surface artifact analysis. Sites whose distribution of surface artifacts had not been badly affected by erosion or man-made factors were either recommended for sample-oriented collection or 100% collection in order to discern intrasite activity loci, material preferences, and lithic technology. The intensity of recommended analysis depended upon artifact density and site size. Sites with fewer than an estimated 500 artifacts were generally recommended for 100% mapping and collecting of artifacts. Execution of this task will not consume an inordinate amount of time and will provide the maximum amount of data obtainable from the surface artifacts. Sites with great numbers of surface artifacts and large site area were generally recommended for sample-oriented collection efforts. Even with sampling fractions as low as ten percent, a considerable amount of time will be

involved in the location of the sample units and their collection. The recommended levels of sampling are believed to be adequate for discerning discrete components and activity areas, while avoiding excessive redundancy of data.

In some instances, either sample-oriented or 100% collection strategies are recommended for sites that have been badly eroded or otherwise impacted. These sites fall into two categories: those whose distribution of surface artifacts have been adversely affected, and those whose surface artifact distributions are largely intact, although various agents may have destroyed a large portion of the site. The latter group may still yield significant information on intrasite artifact distributions. A large site, for example may be only 25% intact, but still cover hundreds of square meters and contain hundreds of artifacts. The former group in some cases were recommended for additional surface artifact analysis, but with entirely different objectives. These sites cannot provide meaningful data concerning artifact distributions, but they nonetheless can provide information that should be preserved. The lithic material preferences and the stages of lithic reduction represented at these sites can be identified, possibly providing insight into the site's cultural affiliation and function. The recommended techniques of collection at these sites are aimed at providing a complete or representative sample of the artifacts present, with less emphasis upon provenience.

The extent of excavation recommended for sites also reflect a number of site-specific variables. Emphasis was placed upon the excavation of surface structures and features, which are not only highly vulnerable to impacts, but also have a high potential to yield critical dating and subsistence data. In some instances, additional testing is necessary to properly discern site potential, in that the limited investigations conducted were inadequate to facilitate proper appraisal. The recommended excavations are all in the scope of test excavations; extensive excavation of a site requires the prior development of a site specific and hopefully a project-wide research design to ensure maximum data recovery.

The execution of this project can be divided into three phases: a planning phase, a field phase and an analysis phase. The methods employed in each of the three phases are discussed below.

Planning Phase

The primary objectives of this first phase were to devise a work plan that would be implemented in the field phase, to become familiar with the archaeological data base, and to prepare data and equipment necessary to conduct the field and analysis phases. The first objective, the preparation of a work plan, was necessary because the National Park Service and Army Corps of Engineers realized that close scrutiny of the extant data recorded at each site by the various previous archaeological investigators might adequately answer questions for which field tasks had been recommended. The utilization of literature searches rather than on-site data recovery techniques is far

more cost effective, and is in line with the general goal of site preservation.

Upon award of the contract, personnel at Nickens and Associates cut, ground and numbered 244 site stakes, one for each site to be visited during the field phase. The 18 inch long and one-half inch diameter rebar stakes were stamped with both Laboratory of Anthropology site numbers and the School of American Research's Abiquiu Reservoir field numbers.

On April 19, 1982, Dr. Paul R. Nickens, Mr. Jeff Jennings, and Mr. Alan D. Reed of Nickens and Associates met with Ms. Jan Biella of the U.S. Army Corps of Engineers and Mr. John Beal of the School of American Research in Santa Fe, New Mexico, to obtain project maps, site descriptions, photographs, and manuscripts, and to discuss project parameters. Both institutions kindly allowed pertinent data to be returned to Montrose for reproduction and inspection. A meeting was also held with Mr. Curtis Schaafsma of the Laboratory of Anthropology to discuss the history of research in the Abiquiu Reservoir area.

In Montrose, all pertinent site report forms and photographs were copied for use in the field and for subsequent analysis, and manuscripts were perused. A ten percent sample of sites in the lower priority groups was then selected amounting to 17 sites. These sites were to be investigated by the same means as the sites in the higher priority groups, based upon the tasks recommended for each site in the scope-of-work. The sample was stratified into three groups, based primarily upon the designated priority groups. One stratum included priority groups 3 and 4, and encompassed sites in Impact Unit groups 6, 8, and 10. The two priority groups were combined into a single stratum because some sites in some impact units were previously assigned to both priority groups. Another stratum represented the priority 5 sites in Impact Unit groups 7, 9, and 11. The third stratum included priority 6 sites, in Impact Unit group 5. The number of sites selected in each stratum was proportional to the percentage that a stratum comprised of the total number of lower priority sites. The sites were randomly selected, with the aid of a table of random numbers.

The extant data on each site was compared to the field tasks recommended in the scope-of-work. The recommended field tasks were divided into non-impacting and potentially impacting categories. The non-impacting tasks included site staking, mapping, general description, artifact density, and integrity determination. No recommended tasks in the non-impacting group were deleted from the work plan, since their execution did not substantially affect the site and because they generally do not require a large amount of time to conduct. Further, it was assumed that some tasks were recommended because of inadequacies in the original data, though the data may have been recorded.

Efforts were made to reduce the number of sites recommended for the potentially impacting tasks of depth determination, subsistence potential determination and dating potential determination. These investigations not only disturb the sites, but also require a

considerable amount of time to complete. Few depth determination tasks were deleted from the work plan on the basis of the literature search. Evidence that such field investigations were unnecessary primarily pertained to the extent of previous excavations at a site in question.

Of the 94 sites in priority groups 1 and 2 and the ten percent sample of the lower priority groups, 84 originally required subsurface tests to determine dating and subsistence potential. Thirty-five of that total were deleted from the list of sites requiring test excavations because of extant data which indicated that the sites' potential for yielding the desired data could be determined from the literature search. Certain site attributes, such as the presence of hearths, masonry structures, or natural shelter (e.g., rockshelters) were considered as de facto evidence that a site has a high potential to yield chronometric dates and subsistence data. Even if surficial hearths are too deflated to yield substantive data themselves, they nonetheless strongly suggest that other hearths are present. Structures, such as masonry habitation units, frequently yield internal hearths, roofing beams and charcoal fragments. Natural shelters not only attract habitation and its related features, but also often preserve perishable floral and faunal materials.

Table 1 lists the sites for which subsurface tests were deleted from the work plan and presents justification. Tables 2 through 7 list the sites on which specific tasks were conducted. These lists omit site staking and management recommendation tasks, as these were conducted at all task sites. The lists constituted the plan-of-work, which was submitted prior to the field phase on April 26, 1982 to Ms. Margaret Pepin-Donat, the Contracting Officer's Representative, and Mr. Mark Barnes, both National Park Service archaeologists.

In the event that work was completed on the designated sites prior to the completion of the allotted field time, 20 extra lower priority sites were selected for investigations. These sites were randomly selected in the same manner as the 10 percent sample of the lower priority sites. Time allowed for only 11 of these sites to be investigated; the extra sites on which tasks were completed are listed in Table 7.

Field Phase

For field purposes, the 244 project sites were divided into "task" sites and "stake-only" groups. As their designations indicate, the "task" sites required certain types of data recovery or description, to facilitate management recommendations, and the "stake-only" group required merely locating and staking. Efforts were made to locate all sites, but six "task" sites and 18 "stake only" sites were not found. In five cases, the sites were not plotted on the project map, and in other cases, the sites are thought to be mislocated. Some sites had evidently been altered by erosion or inundation to the point that field personnel were unsure that they were on the right site. That substan-

TABLE 1

JUSTIFICATION OF DELETED TASKS

Priorities 1 and 2 Sites

<u>LA #</u>	<u>Subsurface investigation deleted due to:</u>
25321	previous excavations and presence of structures
25351	presence of tipi ring and obsidian
25381	presence of hearths, cobble alignment, and obsidian
25400	presence of tipi ring
25419	presence of hearth with charcoal
25421	presence of 2 tipi rings and fire-cracked rock
25446	previous test excavation and presence of at least 15 hearths
25457	presence of possible structures in conjunction with ceramics and obsidian
25463	presence of rock shelter with fire-cracked rock (possible hearth)
25465	previous test excavation and presence of rock shelter with hearth
25466	previous test excavation and presence of structures
25472	presence of hearths and obsidian
25481	presence of possible tipi ring with an internal hearth and obsidian
25486	previous test excavation and presence of rock shelter and hearths
25487	presence of structures, ceramics and wooden posts
25505	presence of 2 hearths
25510	presence of at least 2 hearths and obsidian
25576	presence of tipi ring with interior hearth
27016	presence of possible tipi rings, hearths and obsidian
27017	previous test excavation and presence of stone structure
27023	presence of rock shelter with hearth, obsidian and ceramics
27024	presence of rock shelter with hearth
27025	previous test excavations and presence of rock shelters, hearth, and obsidian
27033	presence of tipi rings and obsidian
27034	previous test excavations and presence of more than 6 hearths
27036	presence of 6 or more hearths and obsidian
27038	presence of aligned stone structure and ceramics

Low Priority Sites

25399	presence of rock shelters under boulders, hearths, ash, bone, and obsidian
25404	presence of tipi ring and obsidian
25413	presence of 3 hearths and groundstone
25461	presence of 2 to 4 well-defined hearths
25496	presence of homestead with ovens and corral posts, charcoal, ash, groundstone and ceramics
25497	presence of hearth and obsidian
25524	presence of hearth
27012	presence of tipi ring with interior hearth and obsidian

TABLE 2

Sites Requiring Site Mapping (LA Number)

Priorities 1 and 2

25321	25333	25435	25468	25503	25510	25574
25323	25400	25448	25469	25506	25511	27016
25329	25418	25449	25481	25507	25512	27024
25330	25421	25462	25485	25508	25513	27029
25331	25428	25466				

Lower Priorities

25399	25497
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TABLE 3

Sites Requiring General Description (LA Number)

Priorities 1 and 2

25321	25448	25466	25461	25507	25511	27024
25421	25462	25468	25506	25510	27016	

Lower Priorities

25399

TABLE 4

Sites Requiring Artifact Density Studies (LA Number)

25288	25344	25435	25466	25506	25518	27024
25289	25345	25436	25468	25507	25574	27025
25321	25351	25440	25472	25508	25575	27036
25323	25358	25446	25481	25510	27004	27040
25328	25381	25447	25483	25511	27005	27042
25329	25418	25448	25485	25512	27006	27043
25330	25419	25449	25486	25513	27007	27044
25331	25421	25462	25503	25516	27016	27046
25333	25428	25463	25505			

Lower Priority Sites

25399	25477	25497	25524
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TABLE 5

Sites Requiring Integrity Determinations (LA Number)

Priorities 1 and 2

25289	25426	25457	25481	25508	27024	27036
25321	25428	25462	25485	25510	27025	27040
25326	25435	25463	25486	25511	27028	27042
25331	25436	25465	25503	25513	27029	27043
25358	25446	25466	25505	25516	27030	27044
25418	25448	25468	25506	27006	27034	27046
25421	25449	25469	25507	27016		

Lower Priorities

25399	25404	25413	25477	25496	25497	25524
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TABLE 6

Sites Requiring Shovel Testing (for determination of depth, subsistence and dating potential) (LA Number)

Priorities 1 and 2

25288	25345	25440	25483	25510	25575	27029
25289	25418	25447	25485	25511	27004	27040
25328	25426	25448	25503	25513	27005	27042
25329	25428	25449	25506	25516	27006	27043
25330	25435	25462	25507	25518	27007	27044
25333	25436	25468	25508	25574	27028	27046
25344	25437	25469				

Lower Priority Sites

25427	25474	25521	25535	25540	25565	25569
25442	25477					

TABLE 7

Extra Sites
(all sites were staked and assessed for management purposes)

LA #	A. Depth Determination	B. Site Map	C. General Description	D. Artifact Density Study	E. Integrity Determination	F. Dating Potential	G. Sub- sistence Potential
Priority Groups 3 and 4							
25343				X	X	X ¹	X ¹
25379				X	X	0 ²	0 ²
25391				X	X	0 ³	0 ³
25410	0 ³	X	X	X	X	X	X
25532				X	X	X	X
27049				X	X	X	X
Priority Group 5							
25431						0 ⁴	0 ⁴
25491						X	X
27003						0 ²	0 ²
27020						0 ³	0 ³
Priority Group 6							
25536		X				0 ⁵	0 ⁵

- ¹Due to the presence of hearths, structures, rockshelter and obsidian, subsurface investigation is not necessary.
- ²Since this site has already been test excavated, further subsurface investigations do not seem warranted.
- ³Due to the presence of hearth areas, no subsurface investigations should be necessary.
- ⁴Due to the presence of numerous structural features, subsurface investigations do not seem warranted.
- ⁵Due to the presence of a rockshelter with ash midden, structures, and a possible hearth, subsurface investigations should not be necessary.

tial numbers of unrecorded sites were encountered compounded the problems of site location. One relocated "site" was determined to be non-cultural. Considerably more time was spent trying to find "task" sites than "stake-only" sites. Nonetheless, 220 sites (90%) were located, which is a credit to the quality of data previously recorded.

Once a site was located, a minimum of two archaeologists inspected it. This inspection was relatively brief on the "stake-only" sites, aimed at confirming that the site features generally matched those described on the original site form and discerning a central place to set the site stake. Site inspection was more thorough at "task" sites, as such was necessary for proper data recovery.

On task sites, a Site Visitation Form was completed. This form is used to record information on each site's integrity and research potential. Other forms were prepared to record the results of specific tasks, such as artifact density studies, site mapping, and shovel testing. Topographic map locations were checked and replotted if necessary.

Crew size varied between two and four people. Small crews were found to be the most practical, as a considerable amount of transportation time was required for most sites, and the field tasks could easily be conducted with only two people.

Site Staking

All sites located were marked by an 18-inch rebar onto which was stamped the proper Laboratory of Anthropology site number and the School of American Research field number. The stakes were driven deeply, exposing only a few inches above the ground (Fig. 8). Stakes were usually set in the central portion of a site to facilitate surface artifact analysis tasks, or near prominent site features such as structures.

Site Maps

The scope-of-work required that good quality sketch maps be prepared for a number of sites. Each map was to show the location of surface features and important artifacts, artifact sampling units, and excavation units, the location of the site stake, boundaries, and important topographic features or impact zones. These requirements were executed, except that the surface artifact sampling units were not drawn. These were omitted for the sake of clarity, but can easily be plotted in that they are systematically distributed in reference to a site datum, at locations specified by the sample unit names. Mapping was implemented by the use of a compass and a 50 m tape measure (Fig. 9). All maps were drawn to scale.

General Description

A General Description form was completed for each site requiring this task. This form describes the site in terms of topographic



Figure 8. Crew member pounding in site stake.

situation, cultural features present and their relationships, and the distribution and frequency of various artifact classes.

Artifact Density Studies

Required by this task is the estimation of artifact density by artifact class across certain sites, which will permit estimates of the frequencies of artifacts within those classes. This task was only conducted on aboriginal sites and was not required on any of the historic Hispanic sites investigated. Sites were first thoroughly inspected, which allowed for the location of all surficial instances of comparatively non-abundant artifact classes such as prepared chipped stone tools (e.g., projectile points, bifaces, and scrapers), and groundstone artifacts. These items were pin-flagged and later mapped in reference to the site stake. The artifacts were analyzed *in situ*; none were collected. Artifact classes with large amounts of individual specimens, such as lithic debitage, were studied with the aid of the radial transect sampling technique. In this method, a circle, two meters in diameter, is defined around the centrally located site stake, and along eight transects radiating outward in eight cardinal directions (e.g., north, northeast, east, etc.). The transects are defined with the aid of a compass. At regular intervals along each transect, two-meter diameter circles are defined, and all debitage within these circles are tabulated (Fig. 10). Analysis continues along each transect until the frequency of artifacts within and around the sample units approaches zero. The intervals between sample units varies between 5 m, 10 m, and 20 m, depending upon site size and artifact density. The larger the site size and the more dense the artifacts, the broader the interval was between sample units. The radial transect method efficiently determines artifact densities, allows for accurate definition of site boundaries, preserves locational information, is readily plotted on a sketch map, and is easy to set up and execute. On some very oblong or nearly linear sites, or sites with discrete artifact concentrations, it was necessary to conduct two or more radial transect studies.

Site Integrity

The integrity of specified sites was assessed with respect to post-depositional geologic and recent ground-disturbing factors. The purpose of this task is to determine if a site still has the potential to yield information important to history or prehistory, or if the site is effectively destroyed. The likelihood that surficial artifacts retain enough contextual integrity to permit intrasite studies of artifact distributions was also assessed in this analysis, and the percentage of a site left intact was estimated.

Determination of Depth, and Dating and Subsistence Potential

The field methods used to determine site depth, dating potential and subsistence potential usually involved both surficial inspection

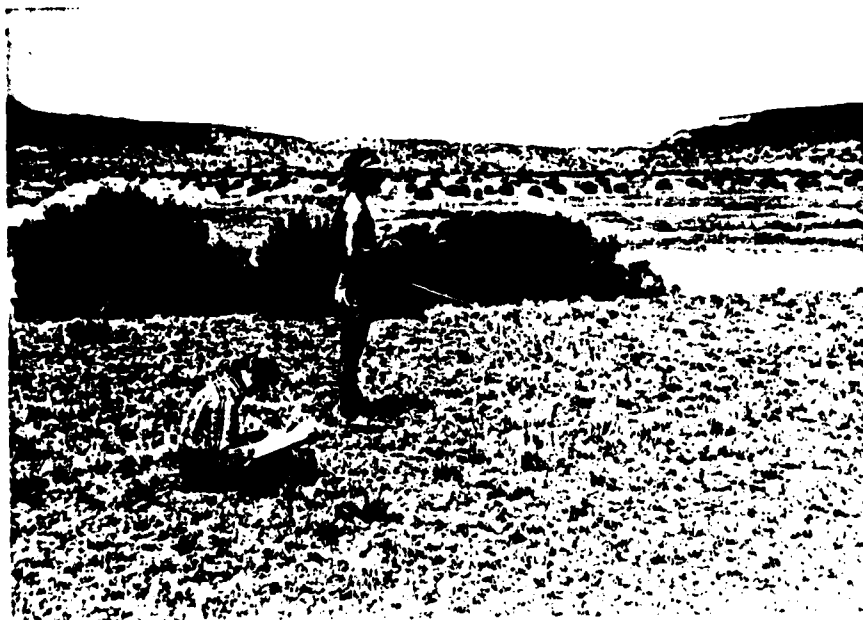


Figure 9. Crew members mapping site.



Figure 10. Crew member tabulating number of artifacts present in two meter diameter sample circle.

and subsurface testing. A site was first inspected to detect the presence of previously unrecorded hearths and structures, and to locate cutbanks that might profile the site's stratigraphy. If these features were found, subsurface tests were often omitted. Subsurface testing involved two techniques; the excavation of 1 m by 1 m test squares and the excavation of informal shovel holes.

The meter square test units were located on the site where, in the opinion of the crew leader, the greatest likelihood for buried cultural materials occurred. The test units were not, however, placed on cultural features if these were present. The test squares were carefully excavated in arbitrary 10 cm levels, and all fill was screened through 1/4 inch mesh, which was inspected for artifacts, charcoal, and floral and faunal materials (Figs. 11 and 12). If important cultural features were encountered, excavations were terminated, as the goal was to detect the potential of sites to yield important information, and not to recover extensive data. Excavation of a meter square exposed enough soil to provide a good indication of most sites subsurface potential, and allowed for the completion of an informative soil profile (Figs. 13 and 14).

Shovel holes consisted of informal holes measuring approximately 30 cm to 40 cm in diameter and 20 cm to 40 cm deep. They were not dug in levels, but their fill was screened and their soil profile was inspected. Shovel holes were usually located along transects oriented in the eight cardinal directions although in some cases they were dug in other areas. In the latter cases, angles and distances to the shovel holes were recorded in reference to the site stake. Shovel holes were generally used when the excavation of the test squares provided incomplete information, or when there was surficial evidence that excavation of a centiare would be non-productive. The number and location of excavated shovel holes are presented on the pertinent field forms. The use of soil probes was originally planned, but during the field phase, their utility was not realized.

Tabulation of the frequencies of Polvadera Peak and Jemez obsidian was also required by the scope-of-work, to facilitate assessments of site potential to yield obsidian hydration dates. The frequencies of the two types are presented in the discussions of individual sites below. The results should be viewed cautiously, however, due to problems inherent in macroscopic identification of obsidian to determine its source and the lack of extensive experience on the part of field personnel in distinguishing the two types.

Analysis Phase

This phase included the preparation of artifacts and field data for submission and the formulation of management recommendations for each of the task sites. The number of collected artifacts was small, in that no surface collections were made. The artifact collection consists only of those items recovered in subsurface investigations. All collected artifacts were washed, labelled, and described. Prepared tools, such as projectile points and ceramics, were classified into



Figure 11. Crew member screening fill from test square.

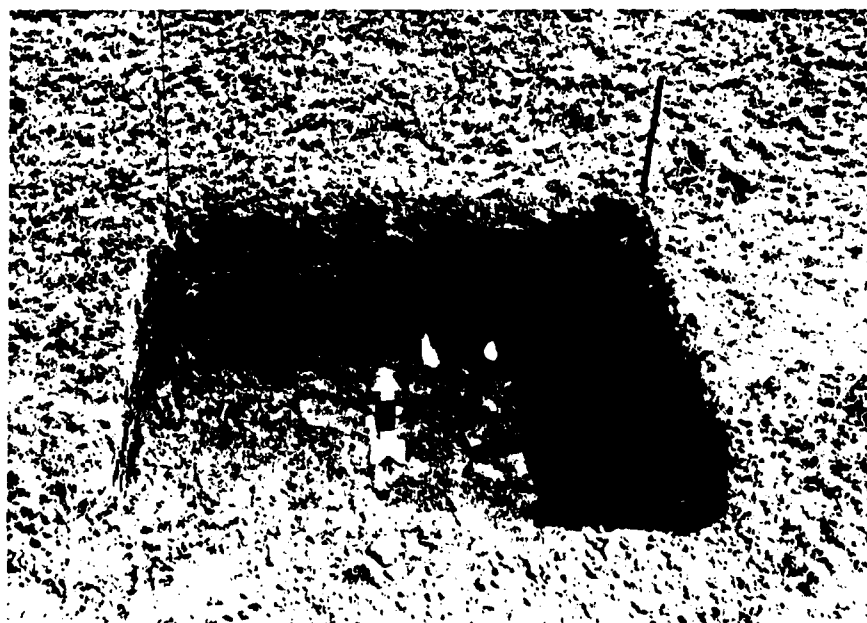


Figure 12. Typical test unit upon completion of excavation.



Figure 13. Crew member photographing excavated test unit.



Figure 14. Crew members measuring stratigraphic layers for soil profile.

existing typologies when possible. Lastly, artifacts were packaged for submission to the Museum of New Mexico for curation. A catalog of the collected artifacts is included as Appendix A.

Site specific management recommendations follow in the next chapter. The primary objective in the formulation of these recommendations was site preservation; when impending project impacts make this option unfeasible, data preservation through data recovery was recommended. Management recommendations have emphasized the recovery of data that are considered the most likely to be destroyed by project impacts. Inundation of a site atop a level ridge may have little effect upon the condition and distribution of buried artifacts, but may, however, adversely affect radiocarbon dates and features such as hearths and habitation structures, and may limit future archaeologists' ability to relocate present surface artifacts. The recommendations therefore emphasize collection of surface artifacts and the excavation of hearths and surface structures, rather than extensive subsurface investigation.

CHAPTER III

SITE SPECIFIC DATA

General

In this section, descriptions of the data collection tasks completed at each site are presented, along with a brief summary of the site's important attributes. The site descriptions are arranged by impact units, which results in sets of sites with similar potential impacts. The first impact unit to be presented, for example, is termed the Sediment Reserve Unit; sites in this group may be subject to long term inundation and sediment deposition. Other impact units have other potential impacts, ranging from possible wave damage and inundation to no anticipated impacts. The sites are so arranged to be consistent with the site organization developed by the National Park Service and the Corps of Engineers in the scope-of-work, and because such an arrangement facilitates the formulation of management recommendations. While preservation of sites is considered the most desirable of management options, the nature of potential impacts in some impact units may make site-disturbing mitigation methods necessary.

Sediment Reserve Impact Unit

The 12 sites in this impact unit, termed Group 1 in the scope-of-work, may be subject to long-term inundation and sediment deposition. While various studies concerning the effects of inundation on archaeological sites have been conducted (e.g., Lenihan, et al. 1977; Schaafsma 1978), the full range of impacts on sites is not fully known. The effects of inundation on obsidian, which can be used in obtaining chronometric dates, the chemical constituents of soil, and macrofloral specimens is not well understood. Certain site attributes, such as pollen (Linda Scott, personal communication) and artifact distributions on flat areas and on gentle slopes, may not be adversely affected (Schaafsma 1978). Regardless of the effects upon the physical constituents comprising a site, long-term inundation will almost certainly result in a substantial amount of silt being deposited on the site, making subsequent relocation and analysis very difficult. Consequently, various data recovery techniques are recommended for the sites in this impact unit, based upon their condition, the nature of their attributes, and their potential to yield important scientific data.

LA25289 (AR111B)

Description: Twenty-nine non-utilized flakes were observed by Nickens and Associates personnel in an area measuring approximately 40m by 20m. No prepared tools or cultural features were observed. The site has been heavily impacted by landslides and downslope erosion.

Cultural Affiliation: Unknown

Discrepancies: The site is located 175 m westward of its previously mapped location; the site is approximately 400 m² smaller

than previous records indicate, and no basalt flakes were observed on the slope below.

Tasks Completed: Site Stake, Artifact Density Study, Integrity Determination, Depth Determination, and Dating and Subsistence Potential Determination.

Results: Inspection of the site revealed that the site has lost its integrity due to landslide activity and severe downslope erosion; field personnel indicated that only five percent of the site remains intact. Artifact density studies indicate 0.04 artifacts per square meter. Analysis of the distribution of surface artifacts appears to be of limited value, however, due to the site destruction. Three shovel holes were excavated at the site to determine depth and dating and subsistence data potential. Two of the shovel holes encountered rock at less than 7 cm below the present ground surface, and the third uncovered a non-cultural clay level at about 7 cm. No artifacts or charcoal were exposed in these holes. The shallow nature of the soil and the apparent lack of a charcoal stained, buried cultural level indicates that the original living surface has eroded away and that there is little chance that significant subsistence information or chronometric dates can be obtained at the site. One Polvadera Peak obsidian flake was discovered, and several others have been collected during past archaeological investigations of the site. While this allows the possibility that other obsidian specimens are buried at the site, which might yield obsidian hydration dates, the shallowness of burial and the concomitant great temperature fluctuations make it questionable that accurate obsidian hydration dates could be obtained at the site.

Management Recommendations: No further archaeological work is recommended for this site. Natural weathering agents have effectively destroyed the site. The surface artifacts are few in number and are apparently out of context, making further analysis unproductive. Further, the potential for significant buried cultural material is very low.

LA25358 (AR100)

Description: The site consists of a scatter of chert and obsidian debitage on a small bench. Two possible eroded firehearths are present on the eastern side of the site, as evidenced by clusters of fire-cracked rock and charcoal-stained soil. The site has been previously test-excavated, and radiocarbon, pollen and soil samples have been collected.

Cultural Affiliation: Archaic

Discrepancies: None

Tasks Completed: Site Stake, Integrity Determination. The Artifact Density Study was mistakenly omitted.

Results: The site has been previously inundated. The site, however, is still at least 70% intact, although inundation and downslope erosion may have adversely affected the hearth area.

Management Recommendations: That the site retains its integrity and has yielded chronometric and subsistence data during past archaeological investigations suggests that this small site potentially may yield additional data. The site's limited horizontal extent and probable shallowness of soil makes it questionable, however, if further subsurface investigations would be worthwhile. Beal's (1980) recommendation that the surface artifacts of this site be collected in a controlled manner would appear to be appropriate mitigation. The site's small size and paucity of artifacts would permit a 100% collection of surface artifacts. This task, accompanied by proper mapping techniques, would entail approximately 3 person hours of work.

LA25418 (AR160)

Description: The site consists of a small (55 m x 37 m) lithic scatter with one possible hearth. Two biface fragments and one projectile point fragment were found on the site. The site has been impacted by erosional processes including downslope erosion and livestock activity.

Cultural Affiliation: Unknown

Discrepancies: Previous records indicate that the site has been inundated, and that up to three hearths are present. Our recent examination of the site found only one possible hearth and no evidence that the site was once inundated.

Tasks Completed: Site Stake, Site Map, Artifact Density Study, Integrity Determination, and Depth Determination.

Results: Inspection and mapping of the surface artifacts revealed two biface fragments, one projectile point fragment, 24 chert or chalcedony flakes, and five Polvadera Peak obsidian flakes, for an overall artifact density of 0.02 artifacts per square meter. Heavy downslope erosion has substantially affected these artifacts' contexts; only approximately 10% of the site is thought to remain intact. Site depth was investigated via the excavation of five shovel holes, averaging approximately 30 cm deep. No subsurface cultural materials were discovered. The site is therefore thought to be surficial in nature, due to the erosion of the original depositional surface.

Management Recommendations: Due to the eroded nature of the site and the general paucity of artifacts, the site probably has little research potential. It is recommended that the three prepared tools on the site be collected, and that the possible hearth be tested to determine if it is properly identified and if it contains possible dating and archaeobiological specimens. Other investigations, such as analysis of intrasite artifact distributions, are not warranted due to

the site's condition. These proposed tasks would require approximately 5 person hours of labor.

LA25466 (AR234)

Description: This is a multi-component site, comprised of the ruins of an historic homestead and a scatter of lithic debitage. The historic component is represented by the foundations of a house, two small outbuildings, and a corral. The prehistoric component is represented by a scatter of approximately 40 flakes, 21 of which were concentrated in the eastern portion of the site.

Cultural Affiliation: Historic-Hispanic; Prehistoric-unknown

Discrepancies: Earlier records indicate the presence of two lithic concentrations; this project observed only one.

Tasks Completed: Site Stake, Site Map, General Description, Artifact Density Study, Integrity Determination.

Results: The site map and general description tasks were completed and covered both the historic and the prehistoric components. The remaining tasks focused primarily upon the site's prehistoric component. The prehistoric artifacts were all debitage. Artifact density ranged from approximately 0.9 artifacts per square meter in the concentration, to 0.01 artifacts per square meter over the entire site. The integrity of the prehistoric component is doubtful, due to the effects of previous inundation, historic ranching activities, and deflation.

Management Recommendations: Considering the paucity of surficial prehistoric artifacts on the site and the degree to which they have been impacted by erosion and historic activities, no further consideration of the site's surface artifacts seems warranted. The lithic concentration is located on a relatively level area, which should not be substantially damaged by wave action during inundation. The primary impact on the site as a result of inundation, then, is likely to be substantial burial by silt, making site relocation difficult. This problem could be alleviated if the site was carefully located by a survey crew, utilizing a transit or other such precision instrument. This task would require approximately 6 person hours. The site's historic component appears to warrant no further investigation. Previous limited subsurface testing of the probable domicile (Beal 1980) has revealed a floor surface beneath approximately 38 cm of overburden, which should protect the structure against future perturbations. Further, these test investigations resulted in the recovery of soil flotation, pollen, and tree-ring specimens, which should provide functional and temporal information for the historic component, if processed. The two other structures, thought to be corrals, will likely yield little additional data, due to their small size and low potential for possessing significant cultural materials.

LA25468 (AR236)

Description: The site consists of a scatter of 12 chert flakes located on the bank of an arroyo. No prepared tools or cultural features were observed.

Cultural Affiliation: Unknown

Discrepancies: none

Tasks Completed: Site Stake, Site Map, General Description, Artifact Density Study, Integrity Determination, Depth Determination, Dating and Subsistence Potential Determination.

Results: The site was staked, and a description and map were prepared. For the artifact density study, all 12 chert surface artifacts were inventoried, resulting in a density of 0.1 flakes per square meter for the small site. Surficial inspection indicated that the site has been approximately 50 percent destroyed, primarily as a result of an arroyo cutting into the site. Inspection of the cutbank, which presents an extensive soil profile through the site, revealed no evidence of buried cultural materials. To confirm the apparent lack of depth of cultural materials, two shovel holes were excavated. One revealed sandstone bedrock 4 cm beneath the present ground surface, and the other revealed approximately 6 cm of topsoil overlying a more clayey loam with inclusions of decomposing sandstone. Neither yielded charcoal, artifacts, or other indications of buried cultural materials. The site appears to have little potential to yield dating or subsistence data.

Management Recommendations: Due to the nature of the cutbank on the site, it seems likely that additional slumping will occur even if inundation occurs, and that the site will be destroyed. Apparent absence of buried cultural materials suggests that surficial analysis alone would be worthwhile. Since surface artifacts are few, it is recommended that 100% of the artifacts be collected. A substantial number of flakes appears to represent the secondary stage of flake reduction, so technological studies of the site's artifact assemblage may cast light on the patterns of prehistoric lithic reduction. It is estimated that it would take 2 person-hours to collect this site.

LA25469 (AR237)

Description: The site consists of a large chert quarry area, situated atop a gravel ridge at the confluence of the Puerco and Chama Rivers. Chert cobbles and boulders occur naturally in the gravels comprising the ridge. No features or prepared tools were observed.

Cultural Affiliation: Unknown

Discrepancies: The site is substantially smaller than originally recorded, due to partial destruction of the site. Most artifacts are now clustered on the knoll shown on an earlier sketch map rather than along the base of cliffs to the west. The site presently covers approximately 52,500 square meters.

Tasks Completed: Site Stake, Site Map, Integrity Determination, Depth Determination, Determination of Dating and Subsistence Potential.

Results: Between 50% and 85% of the site has been destroyed, depending upon what previously recorded data is used. Prior inundation has stripped the soil from the western portion of the site near the cliffs, removing artifacts and exposing hard, decomposing sandstone. While a relatively high percentage of the site is gone, artifacts are still present in an area measuring approximately 52,500 square meters. Much of this area includes the steep slopes of the ridge and lower areas affected but not destroyed by inundation; only that portion of the site atop the ridge, roughly 450 square meters, can be considered pristine. Atop the level ridgetop, lithic artifacts are abundant, and are probably unaffected by downslope movement.

A one meter square test unit was excavated atop the ridge to determine site depth and dating and subsistence potential. The test unit was excavated to 50 cm below the present ground surface; artifacts, but no charcoal, were found in the upper 40 cm. The uppermost 10 cm, termed level 1, produced nine interior chert flakes and one Polvadera Peak obsidian interior flake. Level 2 yielded a large chert core, one secondary chert flake, and two interior chert flakes. Single occurrences of interior chert flakes were found in levels 3 and 4. The upper 40 cm in the test square was characterized by a homogeneous rock free brown loam, under which the soil was more rocky and slightly lighter in color. While subsistence and dating specimens were not encountered, the possibility for such at the site cannot be discounted.

Management Recommendations: While much of the original site area has been destroyed, this site still should be considered important in that it represents a fine example of a Pedregal quarry site. Sufficient area and artifacts remain intact atop the ridge to make a study of the distribution of surface artifacts feasible, perhaps illuminating intrasite activity areas and flaking strategies. It is recommended that all surface artifacts atop the relatively level ridge be mapped and collected. This task would require approximately 5 person-days. That substantial buried cultural material was encountered suggests that important features such as hearths may be present. It is therefore suggested that an additional 10 centiare be excavated atop the ridge in non-random locations, since the site is so large. This task will require approximately 5 person-days to complete.

LA25508 (AR217)

Description: Site LA25508 was originally recorded as a lithic scatter measuring 100 m by 15 m, with an intrusive black-on-white potsherd. Flakes generally represented the primary stage of lithic reduction. Recent inspection of the site resulted in only one artifact, a chert flake, being located.

Cultural Affiliation: Unknown

Discrepancies: Past inundation of the site has apparently removed nearly all surface artifacts, as only one flake was found.

Tasks Completed: Site Stake, Site Map, Integrity Determination, Depth Determination.

Results: Virtually all of the surface artifacts have been removed as a result of wave action and inundation. The inundation impacts may also have removed any topsoil that may have existed above the gravels forming the low terrace on which the site is located, as indicated by the excavation of three shovel holes, inspection of several prairie dog burrows, and inspection of the present ground surface. There is no evidence that cultural materials are buried in the gravel terrace.

Management Recommendations: The site's integrity has been destroyed, and the site appears to have no research potential. No further archaeological investigations are recommended for LA25508.

LA25510 (AR519)

Description: The site consists of an extensive lithic scatter on a terrace at the reservoir's edge. Obsidian, primarily of the Polvadera Peak variety, is abundant. Two possible prehistoric hearths are represented by cobble rings, one of which has charcoal eroding out. No prepared tools were noted. A recent firehearth is also present.

Cultural Affiliation: Archaic

Discrepancies: The site is larger than previously indicated, measuring 120 m by 120 m rather than 70 m in diameter.

Tasks Completed: Site Stake, Site Map, General Description, Artifact Density Study, Integrity Determination, and Depth Determination.

Results: The site was staked, mapped, and described. The artifact density study indicated that there are approximately 0.5 artifacts per square meter on the site, which is comparatively dense. Inspection of prior impacts on the site indicate that approximately 75 percent of the site has been inundated in the past, and that vehicular traffic and downslope erosion have affected portions of the site. Approximately 20 percent of the site area still retains its integrity. A one meter square test unit and two shovel holes were excavated in order to determine depth of cultural materials. The test square yielded 26 obsidian and eight chalcedony flakes within 10 cm of the present ground surface, and three obsidian and one chert flake between 10 cm and 20 cm of the present ground surface. No cultural materials were recovered in deeper levels. Two chert flakes were found in one of the shovel holes. No charcoal was found in any of the subsurface probes.

Management Recommendations: The site has a dense artifact scatter, subsurface obsidian, and the potential for radiocarbon dates from the two hearths. The hearth contents should be collected before they erode away; this would entail the excavation of 2 square meters, requiring approximately 8 person-hours. It is also suggested that a sample of the surface artifacts be collected. Since surface

distributions may be disturbed making detailed intrasite analysis of surficial artifacts unproductive, the radial transect technique could be utilized to obtain a sample of the types of material present. This task would require approximately 4 person-hours to complete.

LA27028 (AR500)

Description: The site consists of a lithic scatter located atop a ridge near Comanche Canyon. One cobble concentration on the site may represent the remains of a hearth. Groundstone and other prepared tools are reported to have been found at the site.

Cultural Affiliation: Archaic (En Medio)

Discrepancies: The site is located on the western (not eastern) side of Comanche Canyon. Few artifacts were found on the slope.

Tasks Completed: Site Stake, Integrity Determination, Depth, Dating and Subsistence Potential Determination.

Results: Approximately 80 percent of the site remains intact. The site has been impacted by previous surface collection, vehicular traffic, and downslope erosion. Impacts are slight enough to make future analysis of surficial artifacts potentially productive. There appears to be little likelihood that significant cultural materials are buried at the site. The excavation of a 1 m by 1 m test square and two shovel holes yielded a single artifact; one chert flake was recovered in the uppermost 10 cm in the test square. No charcoal was found, suggesting that the site's potential to yield dating and subsistence data is limited.

Management Recommendations: The main portion of the site as presently defined is gently sloping, and would probably not be destroyed by wave action during inundation, especially if it were covered by a protective layer of soil prior to inundation. It would probably be more economical and more informative, however, if all surface artifacts were mapped and collected. Extensive subsurface investigations do not appear to be warranted; however, it would be prudent to excavate a meter square at the location of the possible hearth. This might yield a radiocarbon date to corroborate the date suggested by the earlier finding of an En Medio projectile point. It is estimated that the recommended mitigation of this site would require 4 person days.

LA27030 (AR504)

Description: The site consists of a lithic scatter with a possible hearth. A mano and an Archaic projectile point have been previously documented at the site.

Cultural Affiliation: Archaic

Discrepancies: none

Tasks Completed: Site Stake, Integrity Determination

Results: Approximately 50 percent of the site has been inundated, which includes the hearth area. The past inundation has removed the topsoil, leaving rocks more or less in place.

Management Recommendations: The site is located on a ridge with very little level area. Past inundation has removed the topsoil, leaving exposed gravels and artifacts, the latter of which tend to cluster along old shorelines. Detailed surficial artifact analysis is not warranted. Future inundation will destroy the remaining portion of the site. While the research potential of this site is limited, it seems that limited subsurface investigations may be warranted. The possible fire hearth should be tested, to see if it is indeed a cultural feature and possibly obtain a chronometric date. Limited testing might also be conducted in the non-inundated portion of the site, to confirm that buried cultural materials are not present. The excavation of five one meter squares should be adequate to test the possible hearth and the soil depth on the upper portion of the site. This would require approximately 2½ person days.

LA27034 (AR512)

Description: This site is an extensive lithic scatter, with multiple hearths. A fragment of a basalt basin metate and the base of a large corner-notched obsidian projectile point were observed. The site has been previously excavated, and radiocarbon, soil, and pollen samples were collected (Beal 1980; Schaafsma 1978).

Cultural Affiliation: Archaic

Discrepancies: none

Tasks Completed: Site Stake, Integrity Determination

Results: The site is approximately 75 percent intact. Previous archaeological projects have collected some surface artifacts and have excavated approximately five percent of the site. The excavation units were not backfilled, impacting more area. The site has not been inundated.

Management Recommendations: This site has already produced a substantial amount of archaeological data, and it seems that future investigation of the site, both surficially and subsurface, may be productive, depending upon research objectives. Past researchers have utilized this site as a control in studies of the effects of inundation on archaeological resources. As Beal (1980) points out, in that such data has been collected at the site prior to inundation, the site could easily be used to observe changes after inundation. This site's most important contribution, then, might be realized if very little mitigation efforts are implemented. It is recommended, however, that 100 percent of the site's surface artifacts be mapped and either collected

or analyzed in situ. This will preserve important data on the types of materials present, their stage of reduction, and possible intra-site activity areas--data that might be lost if the site is covered by silt. The utility of the site as a scientific control would be maximized if the surface artifacts are not removed from the site excepting perhaps prepared tools. It is estimated that mapping all surface artifacts will require 4 person days of labor.

LA27040 (AR702)

Description: The site consists of a lithic scatter with no cultural features and no diagnostic artifacts. The site covers approximately 1000 square meters.

Cultural Affiliation: Unknown

Discrepancies: This site was not plotted on the project map.

Tasks Completed: none

Results: The site was not relocated.

Management Recommendations: Earlier reports indicate that the site had been previously inundated, and that the dating and subsistence data potential for the site was low. These reports suggest that the site be collected to provide insight into site function. Since the site was not relocated, no further recommendations can be made.

Twenty Year Flood Pool Impact Unit

The 15 sites in this impact unit, termed Group 2 in the scope-of-work, may be subject to repeated inundation and wave action. This type of impact appears to be more destructive to archaeological resources than even long term inundation, in that the particularly destructive wave action process repeatedly affects the site. Further, if the sites are alternately inundated and exposed during the course of the year, an oxidizing condition occurs in the site soils, which is destructive to pollen (Linda Scott, personal communication). Sites in the Twenty Year Flood Pool Impact Unit are likely to be destroyed. The management recommendations for the sites below reflect the nature of the proposed impacts, resulting in the frequent recommendation that data recovery techniques be implemented.

LA25321 (AR32)

Description: The site consists of a sherd and lithic scatter in an area approximately 35 m in diameter in association with a roughly circular stone structure abutted against the face of a sandstone ledge. A second masonry structure, designated Area B on the original site form, has been permanently inundated.

Cultural Affiliation: Unknown

Discrepancies: The structure has deteriorated considerably, judging from the earlier map provided. The western portion of the wall is still intact, but the south and east portions are gone.

Tasks Completed: Site Stake, Site Map, General Description, Artifact Density Study and Integrity Determination.

Results: While Area B has been permanently inundated, the remaining part of the site is in fair condition, having undergone disturbance from livestock and considerable downslope erosion. Approximately 80 percent of Area A remains intact; previous test excavations and downslope erosion have impacted the site. The radial transect artifact density study indicates an average of 0.7 flakes per square meter, and a total of only four sherds for the entire site. The impacts from slope wash indicate that further analysis of surficial artifacts will have limited utility.

Management Recommendations: The School of American Research has excavated a portion of the extant structure (Beal 1980). These tests have produced radiocarbon dates, charred seeds, pollen samples and ceramics, but did not resolve questions concerning the cultural affiliation of the site, its time of occupation, or function. Since inundation will be particularly destructive to this structural site, additional subsurface investigations are recommended. As Beal (1980:19) writes, considerable areas of floor and stratified deposits are still available for further work. It is estimated that approximately two square meters in the structure remain undisturbed. To excavate this amount and collect the necessary samples will require approximately 10 person hours. In addition, it is suggested that a sample of the surface artifacts be collected. The probable horizontal movement of surface artifacts by slope wash limits the utility of an artifact distribution study. It is suggested, however, that all surface ceramics and a sample of the lithics be collected. This would preserve diagnostic ceramic artifacts and would provide a collection from which to discern the types of lithic materials represented at the site. The lithics could be collected via a radial transect sampling technique which would be quick to implement, preserve provenience information, and, if conducted at 5 m intervals, provide a sufficiently large artifact sample to be representative. This task would require approximately 4 person hours to complete.

LA25419 (AR161)

Description: The site consists of 20 tipi rings and a sparse lithic scatter located in a 105,000 square meter area on a terrace above Rio Chama. The tipi rings are comprised of cobble rings. Artifacts include chert, chalcedony and obsidian flakes.

Cultural Affiliation: Historic Ute

Discrepancies: The original recorders noted several lithic concentrations and some hearth areas, but no discrete flake concentrations were found and only one fire-cracked rock area was observed when the site was revisited.

Tasks Completed: Site Stake and Artifact Density Study.

Results: Two radial transect artifact density studies were conducted: one on either side of an east-west drainage which bisects the bench on which the site is located. The majority of flakes were found along the northern and eastern portion of the northern bench; lithics were sparse on the southern bench. Flake densities on the northern and southern benches are 0.35 flakes per square meter and 0.08 flakes per square meter, respectively. No ceramics or prepared tools were observed. The site is in good condition, having been affected by only minor erosion, and is considered to be 90% intact.

Management Recommendations: This extensive, intact site is probably one of the most important sites investigated by this project. The presence of hearths and 20 tipi rings indicates that much data pertaining to the Ute occupation of the Piedra Lumbre Valley can be obtained at the site. That the tipi rings and hearths are exposed indicates that cultural materials are not deeply buried, and so are fragile. Preservation of this site is a desirable management option, but its large size would surely make protective measures such as shoring or burial quite expensive, and burial and subsequent inundation still might result in the loss of certain types of data. Extensive excavations would also be an expensive option, but would probably cost less than shoring and would assure that little data would be lost. It is recommended that 10 of the 20 tipi rings be entirely excavated, along with a sampling of the area surrounding each structure. If data do not become redundant upon the excavation of 10 of the tipi rings, then further excavations may be necessary. Since the site is extensive, but large areas have very few artifactual materials, it is suggested that the extramural excavations be centered around each tipi ring. This could be accomplished by defining a square 20 meters on a side, centered on the tipi ring, and excavating five 2 m by 1 m trenches at randomly selected locations within the square and outside of the tipi ring. Stratifying the square into quadrants might be considered, to distribute the test units around all sides of the tipi ring. The excavation of 10 tipi rings and 50 2 m extramural trenches would require approximately 185 person days of labor to complete, allowing for 13 1/2 person days per tipi ring and 5 person days to complete extramural tests around each ring. An additional 10 person hours could be well spent mapping and collecting all surface artifacts within the 20 m by 20 m square around each tipi ring.

LA25435 (AR177)

Description: The site consists of a 35,000 square meter lithic scatter with no visible features. Chert cobbles occur naturally on the broad terrace on which the site is located, and this material has apparently been exploited by peoples throughout much of prehistory. A

small quantity of obsidian (predominantly Polvadera Peak) is also present on the site, and includes the basal fragment of a projectile point.

Cultural Affiliation: Unknown

Discrepancies: Although the site extends further south than shown on the map, it was found to be 35,000 square meters in size rather than 150,000 square meters, as stated on the site form. There also appears to be a dearth of flakes in the center of the site, with one northern and one southern artifact concentration noted.

Tasks Completed: Site Stake, Site Map, Artifact Density Study, and Determinations of Integrity, Depth, Dating Potential and Subsistence Potential.

Results: LA25435 was found to be in fair condition, having been impacted by a trench cut across its northern end, a two-track road down its length, livestock, burrowing and deflation. It is 95% intact, and in that the site is on a level mesa, little downslope movement of surficial artifacts has probably occurred. Two radial transect artifact density studies were conducted: one in the northern part of the site and one in the southern part. These densities were 0.06 flakes/square meter and 0.27 flakes/square meter, respectively. A 1 m by 1 m test unit was excavated in the artifact concentration in the southern part of the site where the probability for soil depth seemed high. Only one artifact (a nonutilized chalcedony interior flake) was recovered, and that from the upper 10 cm. Levels 2 and 3 contained no cultural material, indicating that the cultural material on this site is surficial only. Dating and subsistence potential seems low, due to the apparent lack of significant buried cultural materials.

Management Considerations: This site is situated atop a level terrace and lacks surface features and buried cultural deposits, so the effects of inundation should be minimal. Analysis of surface artifacts might be productive. It is suggested that a surface collection be made to document the lithic material types present and general flintknapping practices. Utilization of two radial transect samples at the site would be a speedy and easy way to obtain such a sample. It is recommended that a circle 2 m in diameter be collected at 10 m intervals. This task would require approximately 8 person hours to complete.

LA25449 (AR215, 70, 71)

Description: This site consists of a lithic scatter and seven aboriginal hearths--four of which are manifested as deflated fire-cracked rock areas--located on a narrow, gently southward sloping ridge overlooking Rio Chama to the south and bounded to the east and west by intermittent drainages which are now partially filled by the reservoir. Two rock cairns and two recent hearths are present at the tip of the ridge. The site measures approximately 400 m north-south by 80 m east-

west (25,000 square meters) with all but the northern site boundary corresponding to the ridge edges. Artifacts are predominantly chert interior flakes, with some cortical material. One large corner-notched projectile point was observed, and two projectile points were noted previously.

Cultural Affiliation: Unknown

Discrepancies: Artifacts were fairly continuous across the site and were not found in discrete concentrations, as previously recorded. Several more hearths were located. The two rock cairns are smaller than recorded, and there is no evidence upon which to assign a Navajo cultural affiliation, as was done.

Tasks Completed: Site Stake, Site Map, Artifact Density Study, Integrity, Depth, Dating and Subsistence Potential Determinations.

Results: The site is in good condition and is estimated to be 75% intact. Downslope erosion has deflated the hearths, and recent disturbance has resulted from livestock grazing, a two-track road, and campers (modern hearths and trash). A radial transect artifact density study indicates a flake density of 0.18 flakes/square meter. Obsidian is present, and is approximately 50% Polvadera Peak and 50% from other sources. Three shovel holes were excavated to determine if the site contained subsurface cultural materials. The first was placed at the edge of a fire-cracked rock area and charcoal stained soil was encountered immediately below a thin layer of topsoil. Excavation was halted at 5 cm in order to avoid possible damage to an intact hearth. Another was placed adjacent to the first, and was excavated to a depth of 25 cm without encountering charcoal, artifacts or bedrock. The third was placed in an artifact concentration and was excavated to a depth of 35 cm. Again, no charcoal or bedrock was found. Four flakes were recovered from this shovel test, indicating depth of cultural materials. The four flakes were all nonutilized interior flakes: one was a dense black obsidian, two were white chalcedony and one was white chert. Dating and subsistence potential at LA25449 is considered to be high, due to the presence of numerous hearths and the apparent depth of cultural material.

Management Recommendations: The site's location atop a gently sloping ridge should insure that it will not be destroyed by inundation. The seven hearths visible on the surface will likely be damaged, however, so it is recommended that their contents be collected for future studies. It is also suggested that a sample of the site's surface artifacts be collected. Use of the radial transect sampling technique at three locations on the oblong site, with two meter diameter sample units spaced at 10 m intervals, will provide an adequately sized sample of the types of artifacts present. The recommended tasks will take approximately 4 person days to accomplish. More detailed analysis of intrasite artifact distributions may also be productive.

LA25457 (AR224)

Description: The site consists of a sparse sherd and lithic scatter associated with two rock piles, situated on a small level terrace overlooking an intermittent drainage to the east. The first rock pile, located along the western portion of the site among some natural sandstone rocks, has some fire-reddened rocks, an upright slab and some charcoal in a 4 m diameter area. The second rock pile is to the east, in the floodplain and separated by the terrace above by a cobble-covered 35° slope. This rock pile consists of approximately 24 sandstone slabs stacked one to two courses high in a 1.5 m diameter area; it has been inundated. Thirteen red (Tewa?) and seven black (Tewa?) sherds were found in a 30 m diameter area to the east of the first rock pile. Lithics are sparse and cover the terrace area and include two Polvadera obsidian and a predominance of white chert flakes. The site covers approximately 4200 square meters.

Cultural Affiliation: Navajo

Discrepancies: LA25457 was mislocated on the project map where it was shown to be on the next ridge to the east.

Tasks Completed: Site Stake and Integrity Determination.

Results: This site was found to be in fair condition, having been impacted by livestock, downslope erosion, deflation and inundation. The lower rock pile has been inundated and the upper one is also eroded. The sherd scatter is devoid of vegetation, probably due to livestock use and erosion. It is judged to be approximately 40% intact.

Management Recommendations: The proposed project impacts could be effectively mitigated by the collection of all surface ceramics and the testing of the two rock piles. A centiare excavated in each rock pile should allow for the function of these structures to be identified, and might permit the collection of subsistence data or specimens suitable for chronometric dating. These tasks would require approximately 2 person days to complete.

LA25462 (AR230)

Description: This site covers a 200 m by 300 m (22,000 square meters) area of a two-lobed gravel terrace which overlooks the confluence of the Puerco and Chama Rivers. Eroding out of the terrace edges are chert nodules. In association with these nodules are chert flakes of all sizes and stages of lithic reduction, as well as some cores. Along the extreme western portion of the site, a Paleo-Indian projectile point base was found in association with a large biface fragment and a scraper. In the middle of the western lobe there is a concentration (A) of obsidian and chert flakes, and a sandstone mano. On the eastern terrace lobe a small chert concentration (B) was observed. This concentration is the same in character as the quarry areas around the terrace edge.

Cultural Affiliation: Paleo-Indian and possibly several others.

Discrepancies: The site boundary does not extend as far away from the river as previously shown on the project map, and site dimensions and area are consequently smaller than noted on the site form. A mario, a Paleo-Indian point base, a biface fragment and a scraper--all not previously recorded--were found. No hearth was located.

Tasks Completed: Site Stake, Site Map, General Description, Artifact Density Study, and Determinations of Integrity, Depth, Dating Potential and Subsistence Potential.

Results: This large site is in good condition, and is estimated to be 90% intact. It has been impacted by livestock, sheet erosion and deflation. Two radial transect artifact density studies were conducted. The western lobe of the terrace was found to have an artifact density of 0.41 flakes/square meter, and the density of the eastern lobe was found to be 0.32 flakes/square meter. A 1 m by 1 m test pit excavated in Concentration A revealed a cultural layer extending from the present ground surface downward 10 to 12 cm which contained chert and obsidian nonutilized flakes (five Polvadera obsidian interior, five chalcedony interior and two chalcedony secondary) and an obsidian projectile point midsection. No charcoal was present, however.

Management Recommendations: This site is horizontally extensive and is in reasonably good condition. That this site has yielded a Paleo-Indian projectile point and has cultural materials buried at least 10 cm to 12 cm deep makes it imperative that the potential for site depth be undoubtedly determined. The excavation of a single centiare on a site so large, though placed in an area where the greatest potential for depth exists, may not have provided as accurate data as is required for this site. Consequently, it is suggested that an additional 20 centiares be located at random locations on this site. This task will require approximately 10 person days to complete. It is further suggested that a sample of the surface artifacts be collected. This could be done by superimposing a grid over the site with 5 m by 5 m grid squares, and randomly selecting 10% for collection. This will entail the location and collection of 138 grid squares. The collection task will take approximately 4 person days to complete. All prepared tools found on the site should be mapped and collected. Other studies of surficial artifact distributions might be productive, considering the site's condition.

LA25472 (AR240)

Description: The site is a scatter of chert, obsidian and quartzite flakes located in a 2275 square meter area on a bench which now overlooks the reservoir. Two fire-cracked cobble hearths are present.

Cultural Affiliation: Unknown

Discrepancies: A third hearth, noted when the site was originally recorded, was not relocated. The site is classified as a red jasper

quarry, but was probably primarily a campsite.

Tasks Completed: Site Stake and Artifact Density Study.

Results: LA25472 was found to be in good condition, and is estimated to be 90% intact. Downslope movement has minimally affected artifact distribution. A radial transect artifact density study was conducted, and flake density was found to be 0.22 flakes/square meter. No prepared tools were observed. Obsidian is present, and is predominantly the Pulvadera Peak variety. Surface indications suggest that buried cultural material may be present at this site.

Management Recommendations: This small site has abundant surface material, cultural features, and possibly buried cultural deposits. It is located on a slope, which may result in its destruction, if inundated, because of wave action. To preserve the important data evidently present at the site, it is suggested that 100 percent of the surface materials be mapped and collected, and that limited test excavations be implemented. The two hearths should be completely excavated, and their contents processed for dating and flotation studies. At least two other meter squares should be excavated, in order to discern depth of cultural materials and, if surface evidence allows, to locate the third hearth previously located at the site. This work plan will require approximately 4 person days to complete.

LA25486 (AR403)

Description: The site is a rockshelter formed by a large boulder overhang. Chert flakes and micaceous sherds were found in the immediate vicinity. The total site size is 372 square meters. The rockshelter has been previously tested in two areas, resulting in the recovery of a St. Christopher's medal, lithics, ceramics and biological remains.

Cultural Affiliation: Radiocarbon samples from the rockshelter produced dates from the late Archaic/Basketmaker transition, the early 17th century (Navajo?), and mid-19th and early 20th century and modern Hispanic occupations (Beal 1980).

Discrepancies: The site was originally recorded as being 5000 square meters in area. However, its size was reduced when tested in 1979. When revisited, all but two flakes were found in the immediate vicinity of the rockshelter, supporting the smaller size estimate. The hearth area noted on the original site form was not relocated; it may have eroded away.

Tasks Completed: Site Stake, Artifact Density Study, Integrity Determination.

Results: The site is eroding drastically through downslope erosion, channel erosion and periodic inundation. A small wash channel

runs through the rockshelter. Testing has also impacted the site. LA25486 is considered to be in fair condition, and only 50% intact. A count of all the artifacts within a 5 m radius of the rockshelter resulted in totals of 35 flakes and 12 sherds.

Management Recommendations: Data recovery strategies are required at LA25486 in order to keep important data from being lost to current erosional processes and inundation. Previous excavations at the site have recovered a considerable amount of subsistence and temporal data (Beal 1980), but indicate that protected, dry cultural strata are still intact, the further excavation of which could be exceedingly informative. Rockshelters are not common in the Abiquiu Reservoir project area, so the site has particular value in being able to contribute to studies of perishable ecofacts and artifacts, and diachronic adaptations. It is suggested that all surface artifacts be mapped and collected, that a 4 m by 1 m test trench be excavated parallel to and adjacent to the previously excavated Test Trench #2, and that four 2 m by 1 m test trenches be excavated at scattered locations in front of the rockshelter to the southeast. Prior to the excavation of the trench in the rockshelter, the old Test Trench #2 should be cleaned out to expose the natural stratigraphy. Excavation of the adjacent test trench could then begin, utilizing natural rather than arbitrary excavation levels. The trench should be positioned so as to pass from the back of the shelter out beyond the dripline, thereby providing a continuous soil profile. Samples for ancillary studies should be liberally collected. It is strongly recommended that a research design be prepared prior to the site's excavation to assure maximum data retrieval. The tasks recommended for LA25486 will require approximately 10 person days to complete.

LA25503 (AR502)

Description: The site is a 15,000 square meter lithic scatter comprised of chert, chalcedony and obsidian flakes and cores, with obsidian being the predominant raw material type. One obsidian projectile point fragment was observed, and two obsidian Basketmaker projectile point bases were collected previously. The site is confined to the top of a small mesa with excellent vantage in all directions. The reservoir is directly below the mesa and almost makes an island of it. A cobble "hearth" documented on the original survey was tested during subsequent research (Beal 1980) and found to be acultural.

Cultural Affiliation: Unknown

Discrepancies: The site is considerably larger than previously recorded. Neither artifact concentration B nor the mano associated with it was relocated.

Tasks Completed: Site Stake, Site Map, Artifact Density Study, Integrity Determination, and Determination of Dating and Subsistence Potential.

Results: LA25503 has suffered minor impacts from livestock, rodent disturbance, and previous testing. It is considered to be 90% intact and in good condition. A radial transect artifact density study conducted outside of the artifact concentration encountered only 0.05 flakes/square meter. Obsidian is approximately 75% Polvadera Peak and 25% clear black. A 1 m by 1 m test unit was excavated near the lithic concentration. Four flakes (three Polvadera obsidian, 1 white chalcedony; all interior, nonutilized) were present on the surface of the centiare and five were found in the first 10 cm below ground surface. The second vertical level (10-20 cm below surface) was culturally sterile. The five subsurface flakes were all Polvadera Peak obsidian. Four were interior flakes and one was a secondary flake. One of the interior flakes was a blade with utilized lateral edges. It appears unlikely that significant dating or subsistence data is buried at the site.

Management Recommendations: It is suggested that 100 percent of the surface artifacts be mapped and collected, but that subsurface investigations are unnecessary. The mapping and collecting task would require approximately 2-1/2 person days to complete.

LA25511 (AR520)

Description: This "site", as defined in other records, is the locus of two collected projectile points (Armijo and possible Basketmaker II) and a few scattered flakes which are probably not associated. A very thin scatter of chert and obsidian flakes was found by Nickens and Associates personnel to extend the length of the terrace edge, but no artifact concentrations exist except at the loci of other recorded sites.

Cultural Affiliation: Archaic/Basketmaker II

Discrepancies: This locale is not considered a site.

Tasks Completed: Site Stake, Integrity Determination

Results: LA25511 does not represent a true site, but is rather part of a widespread scatter of flakes which has apparently resulted from the intensive occupation of nearby sites on this terrace, and so represent secondary deposition. The site stake was placed at the area of highest flake density which most closely corresponded to the location marked on the project map.

Management Recommendations: LA25511 is unlikely to yield data important to prehistory. No further archaeological investigations are warranted, because the location probably does not represent a locus of past human activity.

LA27006 (AR56)

Description: The site is a small (1200 square meter), dense lithic concentration located on a flat circular hilltop due south of LA27005. The hilltop is gravel with natural cherts and chalcedonies. It overlooks the reservoir with good vantage in all directions except east. Artifacts are primarily chert but chalcedony, obsidian and quartzite were also observed. Earlier recorders noted a unique grouping of six high angled scrapers on the knoll. No diagnostic tools or features were observed.

Cultural Affiliation: Unknown

Discrepancies: none

Tasks Completed: Site Stake, Artifact Density Study, Integrity Determination, and Determination of Dating and Subsistence Potential.

Results: This site is in good condition, and is approximately 95% intact. No definite impacts were apparent. LA27006 is probably a component of LA27005 as it is nearly surrounded by it. The site is so small and dense that surface mapping of all artifacts was accomplished and only two shovel tests were placed in order to avoid undue impact to a large portion of the site. A total of 235 flakes and two scrapers were mapped for an artifact density of 0.2 flakes/square meter. Raw material was 75.5% chert/chalcedony, 18.6% quartzite, 4.2% obsidian (six Polvadera Peak flakes and four Jemez flakes), and 1.7% moss agate. Shovel testing revealed no subsurface artifacts, charcoal or soil discoloration. The soil was extremely gravelly with almost no soil between rocks, indicating that the possibility of buried cultural deposits is nil.

Management Recommendations: The collection of 100 percent of the surface artifacts would adequately mitigate the effects of inundation. This would require approximately 4 person hours.

LA27016 (AR253)

Description: The site consists of three widely scattered, dense lithic concentrations, a possible hearth and a possible stone circle. A light lithic scatter covers the 5000 square meter area between all features. The site is located atop two projecting ridges and has a good vantage to the west, southwest and south. Artifacts are comprised of predominantly chert and chalcedony flakes, with some obsidian flakes (Polvadera Peak and others) and one obsidian projectile point base. Five other projectile points, including a Bajada point, were recorded on prior visits to the site.

Cultural Affiliation: Archaic/Ute

Discrepancies: The stone circle previously recorded as Feature B was not found; the Feature C stone circle was observed but is tenuous. The size of the site is 15,000 square meters rather than 8000 square

meters, as noted on the site form.

Tasks Completed: Site Stake, Site Map, General Description, Artifact Density Study, Integrity Determination.

Results: This site is in good condition and is judged to be 90% intact. Slight impacts have resulted from prior surface collections, downslope erosion, and a recent campfire. Although an artifact density study was conducted via the radial transect method, no flakes were encountered in the sample units. However, three areas of dense lithics are present on the site, ranging in size from 25 square meters to 600 square meters.

Management Recommendations: This site possibly represents an early Archaic occupation of the Piedra Lumbre Valley, and, due to the paucity of similarly dated sites, takes on added significance. Limited surface investigations and test excavations are recommended for the site. While extensive surface artifact studies may be productive, it is suggested that radial transect sample units, each 2 m in diameter and spaced 5 m apart, be located at each of the three artifact concentrations. These concentrations may represent different occupations or activity areas, and so may evince differing artifact classes and material types. It is also recommended that the possible hearth and the possible stone circle be investigated with one meter square test units. The aim of these excavations would be to identify whether they are indeed cultural features, and if so, to obtain dates and subsistence data. If the stone circle is found to represent a habitation structure, plans should be made for its eventual excavation. Surface collection and test excavations will require approximately 3 person days.

LA27017 (AR254)

Description: The site consists of a small square dry-laid sandstone structure (1.5 m x 1.5 m and 1 m high) perched on a sandstone ledge in the arroyo immediately below LA25574. Thin slabs of sandstone appear to have roofed the structure. Lithic artifacts extend from the dense lithic scatter of LA25574 down to the structure, so that LA27017 is incorporated within the boundaries of LA25574. The site boundaries of LA27017 were previously defined as being 10 m in diameter.

Cultural Affiliation: Navajo

Discrepancies: LA27017 may be part of LA25574.

Tasks Completed: Site Stake.

Results: The structure has been somewhat impacted by livestock and channel erosion, and was excavated previously. It is now in fair condition, and nearly 80% intact.

Management Recommendations: Beal (1980) reports that test excavations have been completed within the structure, with negative

results. Further subsurface tests do not seem necessary. Since the structure is situated within the site boundaries of LA25574, surface collections for LA27017 do not seem warranted.

LA27033 (AR508)

Description: The site is comprised of two cobble rings and sparse surficial lithics located in a 2100 square meter area on a moderately steep gravel slope. The tipi rings are each 4 m in diameter and are located approximately 5 m apart. Artifacts are limited to a few chert flakes; several natural chert nodules are also present downslope from the features. One utilized obsidian flake was noted within one cobble ring when the site was first recorded.

Cultural Affiliations: Ute

Discrepancies: None

Tasks Completed: Site Stake.

Results: Most of the site has been subjected to downslope erosion, leaving it in fair condition. The cobble rings are still readily distinguishable, although eroded.

Management Recommendations: The site, located on a slope, is already substantially eroded, and inundation will likely destroy it. Consequently, it is suggested that all surface artifacts be mapped and collected, and the two tipi rings be excavated. The collection and excavation tasks will require approximately 13 person days to complete.

LA27043 (AR706)

Description: The site consists of a 850 square meter scatter of obsidian, chert and chalcedony flakes with one quartzitic preform and an obsidian Armijo projectile point. No cultural features are apparent. The site is located on a low, gently south-sloping bench on the west bank of Comanche Canyon.

Cultural Affiliation: Archaic

Discrepancies: Obsidian (Polvadera, Jemez and "other") was also present on the site, and there were many more flakes than previously noted. Prepared tools, including a diagnostic projectile point, were also found. The site is slightly larger than originally recorded.

Tasks Completed: Site Stake, Artifact Density Study, Integrity Determination, and Determination of Dating and Subsistence Potential.

Results: LA27043 is in good condition and is considered to be 80% intact. Although livestock have grazed the site area, they have caused minimal impacts. Some downslope erosion has occurred, and there are small washes cut through the site. Because of the small site area and

small number of artifacts, all surface artifacts were mapped. A total of 33 interior flakes (11 chert/chalcedony and 22 obsidian), two of which were retouched, a projectile point and a biface preform were located, for an artifact density of 0.4 lithics per square meter. A 1 m by 1 m test unit located in an uneroded area of the artifact concentration was excavated to a depth of 40 cm. One nonutilized chalcedony interior flake and a large obsidian (Polvadera) corner-notched projectile point were recovered from the top 10 cm. No charcoal was present.

Management Recommendations: It is suggested that all surface artifacts be collected and mapped, a task requiring 4 person hours. Further subsurface explorations seem unnecessary since the site appears to be primarily surficial.

Conservation Pool Impact Unit

Fifty cultural resources are located in the area of a planned 200,000 acre-foot conservation pool. These sites, comprising Groups 3 and 4, will be subject to the effects of long-term inundation and concomitant siltation.

LA25288 (AR78)

Description: The site is a dense lithic scatter located on the west side of Arroyo Comales. A light scatter of lithics upslope appears to be washing down from the Cerrito Recreation Site Archaeological District. The site area is approximately 90 m by 100 m which also includes the light artifact scatter from the site above. No cultural features were observed other than a possible hearth. No prepared tools were observed.

Cultural Affiliation: Unknown

Discrepancies: The possible hearth area was not previously noted, and the site is larger than the 2100 square meters previously described.

Tasks Completed: Site Stake, Artifact Density Study, Determination of Dating and Subsistence Potential.

Results: Inspection of the site revealed that 95% of the site area remains intact despite minor downslope erosion which has affected the entire site. Artifact density study indicates 0.08 artifacts per square meter. A 1 m by 1 m meter test excavation unit and one shovel test were placed on the site in order to determine subsistence and dating potential. A shovel hole was located between datum and a possible hearth but revealed no cultural depth (no artifacts or charcoal observed) even though it was excavated to a level of decomposed bedrock at 30 cm below the surface. The centiare was located in the center of the site where artifact density was highest and soil was present rather than the exposed bedrock observed in other areas of the site. It was excavated to a depth of 10 cm where bedrock was encountered. Two non-

utilized obsidian interior flakes (smoky and gray streaked obsidian) were found but no charcoal was observed. In general, the site lacks soil deposition except for the northeastern portion of the site where the soil is deeper and a possible hearth was observed. The potential for subsistence and dating information is considered possible only from this area near the possible hearth. Artifacts collected were two obsidian flakes from the test excavation.

Management Recommendations: The possible hearth should be investigated with the excavation of a one meter square, to determine if it is indeed a hearth, and to possibly collect dating and subsistence data. Four additional centiares should be non-randomly located in the vicinity of the hearth, to determine if the site does indeed have considerable depth of cultural deposits in this area. No other subsurface work seems necessary, however, considering the shallowness of the soil. Field personnel indicate that analysis of surface artifacts would be productive. Consequently, it is recommended that a 10% sample of surface artifacts be collected. This could be implemented by superimposing an imaginary grid over the site with sample squares 2 meters on a side, and randomly selecting 225 units. All artifacts within the selected sample units would then be collected. This task, plus the excavations proposed above will require approximately 6 person days to complete.

LA25323 (AR34)

Description: The site is an extensive lithic scatter atop two ridges, adjacent to Abiquiu Reservoir and the Cerrito Recreation Site Archaeological District. Two cobble structures, several manos, an obsidian projectile point (stemmed, indented base variety), and two hearths were observed on the site.

Cultural Affiliation: Archaic and possibly Navajo.

Discrepancies: The two structures, the projectile point, and manos were not mentioned in the earlier reports.

Tasks Completed: Site Stake, Site Map, Artifact Density Study.

Results: Surface artifacts are dense at this site, totally 0.9 artifacts per square meter. Prepared tools are comparatively plentiful: four manos, one projectile point, one scraper, and one spokeshave were discovered.

Management Recommendations: One hundred percent of the surface artifacts should be mapped and collected prior to inundation. Further, limited testing should be conducted to obtain chronometric dates for the site and to discern the age and function of the two cobble structures on the site. It is possible that they may be recent. The excavation of 10 square meters ought to provide the desired data. One meter squares should be dug at the location of the two hearths and the two structures. The remaining six test squares could be dug in other areas, at the discretion of field personnel. The latter test squares would provide data on site depth, and would possibly encounter buried

obsidian for hydration studies and buried charcoal fragments for radiocarbon dating. The mitigation efforts proposed for the site should provide data on the site function, cultural/temporal affiliation, the technologies represented, and possibly a sample of the flora and fauna exploited. Most of the site's subsurface materials would be left undisturbed. Since most of the site is on relatively level terrain, wave damage should be minimal. If the subsurface tests indicate that destruction of important data is likely to occur, further excavations could be implemented, or the site could be covered with a protective layer of soil. The limited mitigative methods proposed would require approximately 7 person days of labor.

LA25326 (AR38)

Description: This site is thought to be the homestead of Juan de Dios, a freed Navajo slave who is known to have established a farm in the vicinity some distance from the major Hispanic settlements along the Puerco River. The site dates to the late nineteenth century, and is represented by the foundation remains of a probable house, two collapsed, large jacal structures, corrals, and several other outbuilding foundations. Surface artifacts are not abundant; scattered Tewa wares, Taos or Picuris sherds, white earthen wares, green glass, and square nails have been observed at the site.

Cultural Affiliation: Hispanic

Discrepancies: None

Tasks Completed: Site Stake, Integrity Determination.

Results: A small portion of the site, perhaps totalling 10% of the site area, has been previously inundated. Damage due to inundation appears to have been minor, however, and the rest of the site, including all of the structures, remains intact.

Management Recommendations: This site is in relatively good condition, in spite of the fact that the buildings' superstructures have deteriorated. The site's potential to yield information on Hispanic homestead architecture, material culture, subsistence patterns, and land use patterns seems high. Extensive excavations may be eventually justified at this site, but a prior testing program seems in order. This testing should be oriented towards discerning the function of the various structures, recovering additional temporally diagnostic artifacts, and further defining architectural details. The excavation of twenty square meters should be adequate to achieve these goals. At least one 2 m by 1 m test trench should be excavated in each of the five structures, to recover functionally diagnostic artifacts and soil samples. The remaining 10 square meters could be excavated in any trench size, at locations where field personnel feel the most information can be obtained. Utilization of a proton magnetometer might also be useful at the site, allowing for the definition of buried architectural features in lieu of extensive testing. This device might also locate hitherto unrecorded features such as privies, that are

often filled with well-preserved artifacts. It may also be productive to interview local informants concerning the site.

Further surface investigations are also in order at this site. The relatively few surface artifacts should be mapped and collected, and a few of the standing posts, parts of the jacal structures, should be cored or saw-cut to obtain tree-ring dates. The mapping, collection and testing herein proposed would require approximately 12 person days to implement.

LA25328 (AR40)

Description: This dense lithic scatter is located below a prominent ridge and is approximately 70 m x 670 m in area. Lithic materials are diverse and include Polvadera Peak and other obsidian, chert, siltstone and quartzite flakes. No cultural features were observed but several prepared tools were found. Previous investigations revealed a San Jose (Archaic) projectile point on site.

Cultural Affiliation: Archaic.

Discrepancies: The site is not as large as previously noted.

Tasks Completed: Site Stake, Artifact Density Study, Dating and Subsistence Potential.

Results: Approximately 90% of the site remains intact despite impact from livestock, off-road vehicles, downslope erosion and archaeological testing. Impacts have not greatly impaired the most dense concentration of artifacts and future analysis of surface or subsurface materials could be productive. The artifact density study revealed an artifact density of 0.42 artifacts per square meter. The test excavation of the site revealed a shallow cultural depth to 15 cm below ground surface where a decomposing bedrock was encountered. It also revealed, however, a very dense artifact concentration and the presence of a small amount of charcoal. Artifacts on the surface of the test unit were six chert flakes, while level 1 at 0-10 cm level below present ground surface, yielded 48 artifacts including 10 obsidian flakes (six Polvadera Peak, four other), four quartzite flakes, 33 chert flakes, and one chert core. The second level excavated (10 cm - 20 cm level below ground surface) had 16 flakes (one quartzite and 15 chert). All of the above artifacts were collected. A good potential exists for radiocarbon dates and subsistence information at this site as verified by the presence of subsurface deposition and charcoal and the prepared tools present on site.

Management Recommendations: If the centiare excavated on this project is any indication, additional subsurface tests will provide a large sample of artifacts, and may encounter sufficient quantities of charcoal to obtain a radiocarbon date. It is suggested that 20 additional meter squares be randomly located on the site. The use of small test units will allow them to be more widely scattered and will be more likely to encounter features such as hearths than fewer, larger test

units. This task will require approximately 10 person days to complete. Surficial analysis of the site is also likely to be productive. It is suggested that 10% of the surface artifacts be collected, utilizing 2 m by 2 m grids. A 10% sample means that 105 grid squares must be located and collected, a task requiring approximately 1½ person days to complete.

LA25329 (AR41)

Description: This small lithic scatter, located on a saddle between two ridges, appears to be the result of secondary deposition from a larger lithic scatter that once occupied the lower of the two ridges. This ridgetop has been entirely stripped for gravel, as has a large portion of the saddle. The area between these two impacted areas represents the archaeological site referred to as LA25329. No cultural features were observed and artifacts were chert and obsidian (Polvadera Peak) flakes as well as recent cans and bottles.

Cultural Affiliations: Unknown

Discrepancies: The site is described by previous archaeologists as two lithic concentrations but recent re-evaluation could only discern the one which was listed as Area B. No mention was made of the recent artifacts present. The location of the site on area maps was placed on the ridgetop which was completely bulldozed rather than on the saddle where it exists.

Tasks Completed: Site Stake, Site Map, Artifact Density Study and Determination of Dating and Subsistence Potential.

Results: Inspection of the site revealed that it is a small, light lithic scatter on a saddle and directly below a ridge which has been heavily impacted. Most of the artifacts have probably washed downslope from their original deposition. Artifact density was found to be 0.045 per square meter. No test excavation or shovel testing was done on the site as the large gravel pits flanking the site on two sides was inspected for evidence of charcoal, soil discoloration, and cultural depth. Artifacts were observed scattered over the impacted area but no evidence was found for charcoal, soil discoloration or cultural depth. The soil in this location is thin and is predominantly a coarse gravel (hence the location of two gravel pits nearby). The integrity of the remaining portion of the site has also been damaged by two roads which cross the site from the gravel pits. This site exhibits a minimal amount of integrity and minimal potential for dating, subsistence or cultural information.

Management Recommendations: Due to the site's lack of integrity, no further archaeological investigation of this site appears to be warranted.

LA25330 (AR42)

Description: This lithic scatter (80 m x 120 m) is comprised of

chert, chalcedony and obsidian flakes (Polvadera Peak and other) and is located on a ridgetop overlooking Abiquiu Reservoir to the southwest. Two hearths were observed on site with highly blackened soil in the immediate vicinity. Bedrock appears in several areas across the site and the soil appears to be shallow in areas where bedrock is not exposed. One heavily utilized white chert scraper was observed but no other prepared tools were noted.

Cultural Affiliation: Unknown

Discrepancies: A "large number of scrapers and knives" originally observed on site were not found. Two hearths located on this site were not originally noted.

Tasks Completed: Site Stake, Site Map, Artifact Density Study, and Dating and Subsistence Potential Determination.

Results: Inspection of the site revealed that the site is in fair condition, having been heavily impacted by livestock and minimally impacted by erosion. Artifact density on the site is 0.14 per square meter. No excavation was completed on site to obtain subsistence and dating potential as the presence of two hearth areas along with blackened soil near them indicated a good potential for radiocarbon dates and subsistence information. The potential for obsidian hydration dates is poor as the site does not appear to have substantial depth. Any obsidian artifact would be greatly affected by temperature fluctuations and resulting hydration dates would be inaccurate. Future analysis on this site could be productive especially near or on the hearths.

Management Recommendations: Both hearths should be excavated to obtain dating and subsistence data. Surface collections could be obtained with the radial transect method, which would provide a fairly large sample of the site's material culture if sample units 2 meters in diameter were spaced at 10 meter intervals. This work would require approximately 4 person days to complete.

LA25331 (AR43)

Description: The site consists of a diffuse lithic scatter atop a gravel terrace, divided by a large intermittent drainage into which lake waters moved. The two areas may not represent contemporaneous occupations. One possible hearth and a small cluster of cobbles of unknown function were observed on the eastern portion of the site. Chert nodules, occurring naturally in the terrace, were evidently exploited at the site.

Cultural Affiliation: Unknown

Discrepancies: The site is more extensive in the western portion than previously mapped, extending across the entire knoll. The site covers approximately 5575 square meters.

Tasks Completed: Site Stake, Site Map, Artifact Density Study, Integrity Determination.

Results: Artifacts were few in number and widely scattered, so all were located and mapped. Seventy-three flakes were observed in an area covering 5575 square meters, amounting to approximately 0.01 flakes per square meter. Past inundation has not impacted the site area as it is now defined, so the site is considered 100% intact.

Management Recommendations: While soil depth varies across the site, gravel is exposed over much of the site, suggesting that the potential for buried cultural materials is low. This and the paucity of surface artifacts and lack of diagnostic artifacts suggests that the site is unlikely to yield significant archaeological data. Adequate mitigation for this site would entail the excavation of one meter square centered atop the hearth. This would require approximately 4 person hours to complete.

LA25333 (AR45)

Description: This site is a small sherd and lithic scatter located on a small pinyon-juniper covered ridge. The pottery appears to be Pueblo IV (154 sherds from three vessels: a B/W jar, a buff utility jar and a B/W or B/G bowl) and are confined to a 3 m x 2 m area. Charcoal was observed on the surface 30 meters northeast of datum (near a one-handed mano) and a possible hearth comprised of oxidized cobbles was also located. Chert and obsidian flakes are thinly scattered over the 65 m x 65 m site area.

Cultural Affiliation: Pueblo IV

Discrepancies: The site area is larger than 10 meters in diameter, has obsidian artifacts as well as chert, ceramics, charcoal, a possible hearth and a mano, none of which is mentioned on the original site form.

Tasks Completed: Site Stake, Site Map, Artifact Density Study, Determination of Dating and Subsistence Potential.

Results: Examination of the site revealed that it is in good condition, having been partially impacted by livestock and erosion but with approximately 80% of the site intact. Future analysis of surface artifacts is considered to be productive, especially to identify the ceramics. The artifact density study indicates average artifact density across the site is 0.02 per square meter, although the highly concentrated sherd scatter is not figured into this average. The excavation of the 1 m by 1 m test unit revealed shallow soil (10 cm to 20 cm deep) with no artifacts below surface and no charcoal. The presence of a possible hearth and charcoal on the surface, however, indicates a good potential for radiocarbon dates and subsistence information. One small black-on-white jar sherd was recovered from the uppermost level of the test excavation unit and was the only artifact collected from the site.

Management Recommendations: All surficial sherds and lithics should be mapped and collected. The two areas on the site that may represent eroding hearths should be excavated; four 1 m by 1 m test squares, non-randomly located, ought to discern these areas' functions and might provide radiocarbon and subsistence data. These tasks will require approximately 3 person days to complete.

LA25344 (AR64)

Description: The site is a light lithic scatter (70 m x 80 m) located on the top of a wide flat ridge above Arroyo Seco and consists predominantly of obsidian, chert and chalcedony interior flakes. Some secondary flakes and a projectile point tip were also noted.

Cultural Affiliation: Unknown

Discrepancies: The site is larger than previously noted.

Tasks Completed: Site Stake, Artifact Density Study, Determination of Dating and Subsistence Potential.

Results: Visitation of the site revealed that the site is in excellent condition with some impact by livestock and deflation. Surficial analysis could be productive as one point tip was noted on the surface. The artifact density study revealed an average artifact density of 0.01 per square meter. A 1 m x 1 m test unit was placed on site in order to determine subsistence and dating potential and revealed a cultural depth of 10 cm - 12 cm, but no evidence of charcoal. The test unit was located in an area of greatest artifact density, however, no artifacts were observed on the surface. Artifacts from the first level (0-10 cm) were five obsidian interior flakes (four Polvadera Peak and one other) and three chert flakes (one secondary, two interior). In the second level (10 cm - 20 cm) three artifacts were recovered (two Polvadera Peak obsidian interior flakes and one unidentified obsidian interior flake). None of the artifacts appear utilized. As there is shallow subsurface cultural deposition, potential for dating and subsistence information exists but is considered moderate due to the absence of charcoal, soil discoloration, cultural features and the presence of few prepared tools.

Management Recommendations: While initial subsurface tests did not indicate the presence of charcoal or great depth of artifacts, there nonetheless exists the possibility that the single centiare does not adequately represent the site's subsurface attributes. It is recommended that the site be divided into quadrants, and that one centiare be randomly located in each quadrant. Further, 100% of the surface artifacts should be collected. Completion of these tasks will require approximately 3 person days.

LA25345 (AR65)

Description: The site is a small lithic scatter located on a terrace above a tributary of the Rio Chama. Most artifacts are Polvadera

Peak obsidian interior flakes but there are also some chert flakes present. No cultural features were noted.

Cultural Affiliation: Unknown

Discrepancies: No basis for Historic Ute affiliation was observed.

Tasks Completed: Site Stake, Artifact Density Study, Determination of Dating and Subsistence Potential.

Results: Visitation to the site revealed that it is in excellent condition with 90% of it intact. Impact from deflation and archaeological excavation has occurred but has not substantially altered the site. A 1 m by 1 m test unit in the central portion of the site revealed cultural depth to 20 cm below ground surface but no evidence of charcoal. The first level excavated (0-10 cm) uncovered 20 flakes; 16 Polvadera Peak obsidian interior flakes, two of which were utilized, one unidentified obsidian interior flake, one Polvadera Peak obsidian secondary flake and two chert interior flakes. Level 2 (10 cm - 20 cm) revealed seven Polvadera Peak obsidian interior flakes and the final level (20 cm - 30 cm) had two obsidian interior flakes (one non-utilized Polvadera Peak and one utilized undetermined obsidian). Dating potential at the site is moderate as there is subsurface cultural deposition which could allow for possible obsidian hydration dates. However, radiocarbon dating potential at the site appears unlikely as no cultural features are apparent. The likelihood remains, however, for subsurface cultural features which were not revealed by testing. Subsistence potential also appears unlikely at this time. Artifact density studies indicate an average artifact density of 0.22 per square meter, 90% of the artifacts being Polvadera Peak obsidian.

Management Recommendations: It is suggested that all surface artifacts be mapped and collected, tasks which would require approximately 1 person day to complete. Extensive subsurface tests do not appear warranted based upon extant data, but additional investigations should be considered due to the depth of cultural materials. It is suggested that the site be divided into quadrants, and that one centiare be excavated in each quadrant. This will provide a more accurate picture of the site's subsurface attributes, and may result in the detection of charcoal or features. If such are discovered, additional subsurface testing should be considered. The recommended work will require a total of approximately 3 person days to complete.

LA25351 (AR58 and 509)

Description: The site consists of a large lithic scatter with hearths and a tipi ring.

Cultural Affiliation: Archaic and Ute

Discrepancies: The site was not located on the project map.

Tasks Completed: none

Results: The site was not relocated.

Management Recommendations: Since the site was not relocated, no new data from which to base management recommendations was generated.

LA25381 (AR123)

Description: The site is a large, sparse lithic scatter covering two level bench areas east of Rio Chama. The upper bench area is a sparse lithic scatter and eight cobble alignment areas (circular alignments averaging 6 m in diameter). Lithics are denser in the cobble alignment areas, although still sparse. The lower bench area is a moderate, continuous scatter of lithics and one circular cobble alignment (2 meters in diameter). One biface fragment and a projectile point base were observed. A San Jose projectile point was collected by previous archaeologists.

Cultural Affiliation Archaic

Discrepancies: Hearths described in the previous site form were not relocated. There are more features (cobble alignments) than previously noted. Impact from heavy equipment was not observed. An additional projectile point base was found. Previously recorded lithic concentrations were observed to be small and/or not very dense.

Tasks Completed: Site Stake, Site Map, Artifact Density Study.

Results: The site condition, in general, is good with minor impact caused by livestock, erosion and surface collection. The Artifact Density Study revealed a low artifact density of 0.03 per square meter, and further analysis of surficial artifacts will likely be unproductive. Dating and subsistence potential on site is good, especially near features and the soil appears relatively undisturbed.

Management Recommendations: A sufficiently large sampling of the types of lithics present on the site could be obtained with the use of the radial transect sampling method. Sample units 2 meters in diameter spaced at 10 meter intervals would probably suffice, and would only require 4 person hours to complete. Inundation may adversely affect the surficial cobble alignments. It is recommended that tests be conducted at all eight alignments to determine their function and to assess their research potential. The test excavations, with eight one meter squares, would require approximately 4 person days.

LA25400 (AR142)

Description: The site consists of an historic petroglyph panel, a cairn or rockpile of unknown function, and a semi-circular cobble alignment, posited by previous investigators to be a tipi ring. Recent trash and hearths are present. No prehistoric artifacts were recently observed, although one flake has previously been reported.

Cultural Affiliation: Recent and possible Ute

Discrepancies: The antiquity of the stone semi-circle is questionable. The project map location is incorrect; the site is much smaller and is located at least 50 m westward than plotted.

Tasks Completed: Site Stake, Site Map.

Results: The site was staked, and a sketch map was prepared.

Management Recommendations: A one meter test square should be excavated within the stone ring to determine its age and function. No other archaeological investigations seem warranted at this site, considering the data collected on this and other projects. The excavation of the centiare would require 4 person hours. The recent petroglyph is comprised of a person's name, address, and the date of inscription. The panel has been recorded, which constitutes adequate mitigation.

LA25421 (AR163)

Description: The site consists of a scatter of lithic artifacts, two areas of fire-cracked rock, and a possible tipi ring. A variety of lithic types was present in the artifact assemblage, and one biface was observed. An additional "ill-defined" tipi ring was recorded on the original site visitation.

Cultural Affiliation: Ute

Discrepancies: The "ill-defined" tipi ring was not located.

Tasks Completed: Site Stake, Site Map, General Description, Artifact Density Study, Integrity Determination.

Results: Inspection of the site resulted in the discovery of one white chert biface fragment and 13 chert, chalcedony, quartzite, and obsidian flakes. Approximately 0.003 artifacts per square meter were found, which is an extremely low artifact density. The site has been slightly impacted by erosion, but more than 90% of the site appears to be intact.

Management Recommendations: Considering the low artifact density and the surface artifact data already obtained, no further surface analysis seems warranted. Limited subsurface investigations may, however, provide important information. Two areas of fire-cracked rock were observed, the northern one of which also possessed ashy soil. These areas and the possible tipi ring might yield chronometric dates and possibly subsistence data. It is recommended that 2 m by 1 m trenches be located in the fire-cracked rock concentrations, and that radiocarbon and soil samples be collected. The possible tipi ring should be excavated in its entirety, unless initial investigations indicate that it is non-cultural. The possible tipi ring measures only 2.5 m in diameter. The floor of the structure is not likely to be

deeply buried, considering the exposure of the boulders comprising the ring. Excavation of the possible tipi ring is necessary, as short-term exposure to wave action would likely result in its destruction. The subsurface excavations would require approximately 5½ person days to complete.

LA25426 (AR168)

Description: Previous investigators report that this site consisted of a circular alignment of boulders and a small amount of chipped stone artifacts, including a chert scraper and a chert knife. Recent inspection of the site located only a single chert flake, and a roughly linear arrangement of rocks, measuring 5 m by 2 m.

Cultural Affiliation: Navajo

Discrepancies: Beal (1980) excavated three 15 cm by 15 cm test holes adjacent to the stone structure, with negative results. Our subsurface investigations revealed a buried cultural stratum. Also, most surface artifacts have disappeared.

Tasks Completed: Site Stake, Integrity Determination, Depth and Subsistence Potential Determination.

Results: While very few surface artifacts are present, the site appears to be largely intact. Excavation of a centiare a few meters south of the structure revealed a cultural level, 4 cm to 5 cm thick, buried approximately 16 cm below the present ground surface. This level is heavily stained by charcoal and ash; its gray color makes it easily discernible from the brown loam above and below it. Two sherds and one animal bone fragment were recovered during the excavation of the test square. Level 1, representing the uppermost 10 cm, yielded a thin-walled, gray utility ware, thought to be of Navajo manufacture. Level 2 yielded an unidentifiable mammal bone. In level 3, the upper portion of which contained part of the cultural level, a thick-walled Tewa Red-on-buff Puebloan jar fragment was found.

Management Recommendations: That the cultural level is buried under 16 cm of topsoil and is protected from erosion and concomitant disturbance of artifact distributions, and contains important artifactual and ecofactual materials, makes the research potential of the site high. It is suggested that limited testing on this site be completed prior to inundation, with the goal of collecting representative radiocarbon, pollen, and soil samples, and determining the function of the stone structure. The excavation of 12 square meters, possibly in the form of a meter wide trench passing through the stone structure, will probably recover the desired data. Such a trench would result in a continuous profile of the buried cultural level, and would show how it relates to the stone structure. Whereas previous testing of the structure resulted primarily in negative data, the proposed excavations should expose a substantially larger area, perhaps with better results. Further, a sufficiently large portion of the cultural level should be exposed to obtain one or more radiocarbon samples. Securing an absolute date for the site will greatly

facilitate palynological studies. Pollen samples should be taken in the cultural level, and at 5 cm or 10 cm increments in the overlying soil, to provide economic and perhaps paleoenvironmental data. Lastly, soil samples should be processed to determine the types of flora and fauna exploited at the site. Approximately 6 person days will be required to implement the proposed plan of work.

LA25428 (AR170)

Description: Two lithic scatters, separated by a steep-sided drainage, are included in this site. Both are located on benches on which Pedregal cherts occur naturally, so some quarrying activities probably occurred at the site. One obsidian corner-notched projectile point with a re-worked blade was found on the northernmost concentration.

Cultural Affiliation: Unknown

Discrepancies: No evidence that the site had been inundated was observed. Also, the site covers approximately 6600 square meters, rather than 400 square meters.

Tasks Completed: Site Stake, Site Map, Artifact Density Study, Integrity Determination, Depth Determination.

Results: The southernmost lithic scatter, herein termed Area A, has an average artifact density of 1.1 artifacts per square meter, as compared to Area B with 0.4 artifacts per square meter. To determine depth of cultural materials a centiare was excavated in Area B, where the potential for soil depth appeared greatest. The test unit was excavated to 30 cm below the present ground surface. No charcoal or artifacts were encountered--just a sandy soil mixed with gravels. Five shovel holes were excavated in Area A, which indicated in places bedrock 7 cm below present ground surface, and no evidence of significant buried cultural materials. Both areas, then, seem primarily surficial. The site has not been substantially impacted by erosion or inundation; field personnel estimate that 75% of the site remains intact.

Management Recommendations: Further subsurface investigations do not appear to be warranted at this site. The paucity of prepared tools and the seeming homogeneity of material types suggest that the site was used as a quarry, and that few other activities are represented. If so, then the potential of this site to yield data important to prehistory is rather limited. It is suggested that the collection of a 10% sample of the surface artifacts would adequately mitigate the effects of inundation at the site. This would entail the definition and collection of 165 randomly selected 2 m by 2 m sample squares, a task that would require approximately 4 person days to complete. Detailed intrasite analysis of surface artifact distributions may also be productive, however.

LA25436 (AR201)

Description: The site consists of a sparse scatter of chert and obsidian flakes, concentrated in severely deflated areas. No prepared tools or features were identified. The site measures approximately 60 m by 30 m.

Cultural Affiliation: Archaic

Discrepancies: The site covers approximately 1800 square meters, rather than 525 square meters.

Tasks Completed: Site Stake, Artifact Density Study, Integrity Determination, Depth Determination, Dating and Subsistence Potential Determination.

Results: One hundred percent of the surface artifacts were located and mapped. Only nine artifacts were found, resulting in an artifact density of 0.005 artifacts per square meter. The integrity of the site is difficult to assess, in that flakes are only exposed in the deflated areas, making the actual extent of the site difficult to determine. In the general vicinity, however, roughly 60% of the land is deflated, so an estimate that the site is 40% intact may not be too inaccurate. In order to determine site depth and dating/subsistence potential, a meter square test unit and one shovel hole were excavated. The centiare was located on a grassy, non-deflated area, and was excavated 50 cm deep. No cultural materials were encountered. The shovel hole, dug in a deflated area, also produced negative results. The site's potential to yield buried dating and subsistence information appears to be low.

Management Recommendations: While artifacts are probably buried at the site, as evinced by their exposure in deflated areas, they appear to be sparse and not associated with a definable living surface. No future excavation of the site seems necessary. It is recommended that all surface artifacts be collected, a task requiring 2 person hours.

LA25437 (AR202)

Description: The site measures 50 m x 80 m and contains three distinct cultural areas, that may not be contemporaneous. Area A contains scrapers or blades of basalt, quartzite and chert, a sandstone basin metate fragment, a heavily weathered mano and a small amount of chipped stone and fire-cracked rock. Area B is identified as a seventeenth century Navajo component and has 11 Penasco micaceous sherds and some obsidian flakes. Area C is a concentration of amethyst glass, chert flakes and a possible broken mano near a line of wooden posts.

Cultural Affiliation: Seventeenth century Navajo and Historic

Discrepancies: None observed

Tasks Completed: Site Stake, Determination of Dating and Subsistence Potential.

Results: The site was evaluated and found to be in good condition with minor impact from deflation and archaeological testing. Future analysis of surficial artifacts is unlikely to be productive as artifacts are few and are concentrated in deflated areas. The 1 m by 1 m test unit was placed immediately north of a deflated area with metate and scrapers evident and was excavated to a depth of 60 cm. The strata were homogeneous to the 50 cm level and were devoid of rocks or artifacts. A few charcoal flecks were encountered in levels 3 through 6 (20 cm - 60 cm), and in level 6 (50 cm - 60 cm), the soil was lighter and more compact. No artifacts were recovered from the excavation. The site has the potential for radiocarbon dates, obsidian hydration dates and subsistence information but minimal potential exists for dendrochronological dates.

Management Recommendations: The few surface artifacts should be mapped and collected, and limited testing should be conducted to obtain chronometric dates. The excavation of four 2 m by 1 m test trenches in non-deflated portions of the site would possibly expose sufficient charcoal in a trench to obtain a radiocarbon date, and might yield relatively deep buried obsidian artifacts that would be useful for hydration studies. The recommended tasks would require approximately 5 person days to complete.

LA25440 (AR206)

Description: The site is a scatter of chert and obsidian flakes with three eroded fire hearths. The original site form describes five lithic concentrations in an area 70 m x 120 m. Two projectile points were collected from previous surveys, one of which was identified as Basketmaker II.

Cultural Affiliation: Basketmaker II

Discrepancies: Two additional hearths were observed northeast of the site stake, one of which was a circular cobble alignment and the other an area of fire-cracked rock and charcoal.

Tasks Completed: Site Stake, Artifact Density Study, Determination of Dating and Subsistence Potential.

Results: Examination revealed that the site is in good condition with minor impact from channel erosion and deflation. Future analysis of surface artifacts could be productive on this site. The artifact density study completed on site indicated an average artifact density of 0.02 flakes per square meter. Potential for radiocarbon dates and subsistence data appears good as there are hearths present. The presence of obsidian (Polvadera Peak and Jemez) indicates a possibility for obsidian hydration dates. Subsurface testing was limited to one shovel hole due to the presence of surface features. This hole exposed 40 cm of homogeneous brown loam.

Management Recommendations: It is recommended that 100% of the surface artifacts be mapped and collected, and that the three hearths be tested. While most of the site area is level, the three hearths are located near small but steeply sloping banks that may be eroded by wave action if inundation occurs. The excavation of three centiares, located atop each hearth, would probably yield dating and subsistence information. The recommended tasks would require approximately 2 person days of labor.

LA25446 (AR212)

Description: The site consists of an obsidian and chert flake scatter located on an alluvial fan. At least 15 hearths have been observed at the site by previous investigators, but these are difficult to discern due to erosion and previous test excavations. These earlier test excavations have produced radiocarbon dates, artifacts, pollen samples, and obsidian hydration dates.

Cultural Affiliation: Archaic through Basketmaker II.

Discrepancies: Hearths were difficult to find.

Tasks Completed: Site Stake, Artifact Density Study, Integrity Determination.

Results: Approximately 0.2 artifacts per square meter were found on the site. Only one prepared tool, the tip of a Polvadera Peak obsidian biface or projectile point, was found. The site's integrity has been affected by downslope erosion and previous excavation; nonetheless, approximately 70% of the site remains intact.

Management Recommendations: On the basis of limited test excavations completed at the site, Beal (1980) recommends that the site be entirely excavated to provide data concerning culture change in the Archaic to Basketmaker II transition. The desirability of this course of action is dependent upon the integrity of the buried cultural materials, and the credibility of the purported dates. This writer has insufficient data with which to assess the nature of the cultural deposits previously investigated on the alluvial fan. It seems, however, that claims that the site was occupied over a long period of time and by differing population aggregates may be tenuous. Beal (1980) has four lines of temporal evidence. By far the most credible are the two radiocarbon dates, which date 50 B.C. and A.D. 380. The standard deviations for these dates are not presented in Beal's text, but nonetheless, they indicate a short time span. Beal (1980:47) also employs "paleoenvironmental correlation pursued through pollen analysis" to derive a site date between 3000 and 3500 B.C. This method of dating requires an extremely strong data base and allowances for a host of site-specific variables. Obsidian hydration dates obtained at the site indicate occupations between A.D. 1200 and 1550. These dates were derived from surface artifacts, which according to Burns (1981), are almost impossible to date accurately. The last line of evidence of

the site's temporal span cited by Beal (1980) is the discovery of a projectile point attributed to the Basketmaker III Period.

Rather than the site representing a long temporal span, present evidence also suggests a rather short term occupation in the first four centuries A.D. Such a site is no doubt important, but it does not have the research potential of a stratified site. It is recommended that additional hearths be excavated with the aim of recovering additional radiocarbon dates, and that test units be excavated to determine the nature of the stratigraphy away from the hearths. Beal (1980) tested three hearths; it is suggested that the remaining twelve be excavated if they can be relocated. A substantial amount of subsistence data, as well as dating data, will be generated by these tests. Further, three additional test units should be dug away from the hearths; two could perhaps be located on the alluvial fan and one could be situated on the floodplain below. If these tests indicate that important subsurface cultural materials are present, then additional investigations may be required. It is estimated that the excavation of 15 square meters will require approximately 7½ person days to complete. Additional analysis of the surface artifacts is also in order. In that the site's surface will likely be damaged or destroyed by inundation due to its slope, all surface artifacts should be mapped and collected. This will entail an additional 2 person days.

LA25447 (AR213)

Description: The site is a 5000 square meter lithic scatter located at the point of a ridge which overlooks the Rio Chama and Arroyo Seco. Artifacts consist predominantly of chert/chalcedony flakes with some obsidian flakes also present. All stages of lithic reduction including small pressure flakes were represented in the artifact assemblage. Most flakes were interior; no tools were noted. A recent hearth is also present on the site.

Cultural Affiliation: Unknown

Discrepancies: The site is smaller than recorded previously and than shown on the topographic map. Specifically, it sits on the point of the ridge and does not extend very far back towards the central mesa top. Also, no quartzite flakes were found on the surface.

Tasks Completed: Site Stake, Artifact Density Study, Determination of Dating Potential and Determination of Subsistence Potential.

Results: The surface density of artifacts on this site was 0.8 flakes per square meter. Approximately 80% of the site appears to be intact. Impacts to the site include livestock trampling, off-road vehicle tracks, downslope erosion, deflation, and the presence of a fence across the site. A centiare was excavated in a central area of the site in order to determine dating and subsistence potential. The unit was excavated 20 cm down through very rocky soil to a friable clay

layer lacking rocks and cultural material. Five flakes were found in the top 15 cm of the unit; three were chalcedony interior, one was chalcedony secondary, and one was quartzite interior. No features, charcoal, or subsurface obsidian was encountered. The site appears to have little potential for yielding important dating and subsistence data.

Management Recommendations: This site appears to warrant surface collections. The site size and high artifact density would make a 100% collection a time-consuming chore--one that might not be cost-effective in terms of resulting data. Consequently, it is recommended that 10% of the surface artifacts be collected. This could be implemented by the superimposition of a grid over the site, and the selection of 125 2 m by 2 m grid squares for collection. The location and collection of the sample squares would require approximately 2 person days to complete. That the site is rather large indicates that an additional subsurface test should be completed to obtain a better representation of the site's subsurface. An additional four centiares, perhaps one randomly located on each of four designated quadrants of the site to ensure that different areas of the site are investigated, might be sufficient. Excavation would require approximately 2 person days to complete.

LA25448 (AR214)

Description: The site is a 6400 square meter lithic scatter located on a terrace overlooking the Rio Chama. Most of the artifacts are chert/chalcedony interior flakes, although some Polvadera Peak obsidian and some secondary flakes are present. One tool fragment, a possible projectile point base which may have been reworked, was noted on the surface. A 1 m diameter rock pile is located at the southern end of the site. It is comprised of large metamorphic cobbles, and flakes were observed in the immediate vicinity. Although previous recorders designated this feature as historic, no evidence for temporal placement exists.

Cultural Affiliation: Unknown

Discrepancies: The site is located further to the southwest than the area shown on the topographic map, and is not as large as originally recorded. It was found to measure 675 m E-W by 100 m N-S. No scrapers were found, and it is not known what was meant by "Puebloan lithics." There is no evidence that the rock pile is historic.

Tasks Completed: Site Stake, Site Map, General Description, Artifact Density Study, and Determination of Integrity, Depth, Dating Potential and Subsistence Potential.

Results: LA25448 is approximately 80% intact, and is in good condition. It has been somewhat impacted by livestock and deflation. A radial transect artifact density study revealed that flake density

averages 0.13 flakes per square meter. A 1 m by 1 m test unit was excavated to a depth of 20 cm in the southern portion of the site near the stone feature and in an area with a potential for soil depth. Five nonutilized flakes were recovered from the top 5 cm; three were Polvadera Peak obsidian interior, one was chert interior, and one was a secondary chalcedony flake. No charcoal was present. This site appears to be largely surficial, with little potential for yielding significant subsistence or dating information.

Management Recommendations: Subsurface investigations should focus upon the rock pile to determine its function and possibly its antiquity. In that the rock pile measures a meter in diameter, the excavation of a centiare should sufficiently mitigate the effects of inundation. It is further suggested that 100 percent of the surface artifacts be mapped and collected. The two tasks will require approximately 3 person days to complete.

LA25463 (AR231)

Description: The site is a quarry area with cherts and petrified wood located in a 100 square meter area on a bench above the Rio Puerco. The artifacts are sparsely distributed on the surface. Primary and secondary flakes predominate. Several cores and a hammerstone were observed.

Cultural Affiliation: Unknown

Discrepancies: This quarry area was found further north on the bench than shown on the project map, and the rockshelter containing fire-cracked rock could not be relocated. Nothing was found in the area marked on the project map. The site is also somewhat larger in area than previously reported, and the raw material is more like chert than petrified wood. It is possible that this is a different site.

Tasks Completed: Site Stake, Artifact Density Study, and Integrity Determination. Natural shelter provided by a boulder was used as justification for not conducting test excavations. That the shelter was not found should have resulted in testing; this, however, was mistakenly omitted. If the site is unrecorded, however, testing would be premature.

Results: This site is in fair condition, having suffered impacts from livestock, downslope erosion, channel erosion and deflation. It is estimated to be 60% intact. A radial transect artifact density study was conducted, and there was found to be an average of 0.24 flakes per square meter.

Management Recommendations: The mapping and collection of 100% of the surface artifacts on this site would provide information on prehistoric strategies of raw lithic material reduction. The frequencies of primary, secondary, and interior flakes could be used in a comparative sense to help discern the function of other sites in the

area. This task would require approximately 4 person hours to complete.

LA25465 (AR233)

Description: This site consists of a rockshelter located above an intermittent tributary of the Rio Puerco. The fill in and below the rockshelter is quite ashy and contains charcoal, burnt bone, and chipped stone flakes. One small cob of 10 row (?) corn was noted. There appears to have been a wall in front of the shelter at one time. Presently there are only piles of sandstone slabs, some of which are roof fall. Fire-cracked rocks but no discrete hearths were observed. The total site area, including an artifact scatter downslope of the shelter, is 175 square meters.

Cultural Affiliation: Navajo

Discrepancies: There is no evidence to support the Navajo cultural affiliation assignment. The mano was not relocated, and no discrete hearths were noted.

Tasks Completed: Site Stake and Integrity Determination.

Results: This site is rapidly eroding away and considerable downslope slumping of the cultural fill has occurred since the site was first recorded. It is now estimated to be only 50% intact, and is classified as being in fair condition.

Management Recommendations: This site is particularly important since it has great potential to yield dating and subsistence information. Wooden beams, charcoal, economic macrofloral materials and burned bone have been observed on the surface; similar items are probably present in buried, possibly stratified, deposits. Inundation may destroy the rarely preserved floral and faunal constituents of this site. The site is eroding rapidly, and so may be destroyed even if no project impacts affect the site. Consequently, it is recommended that extensive investigations be conducted at LA25465. It is suggested that all surface artifacts be collected and the remaining five to eight square meters of deposits underneath the rock overhang that are still intact be excavated. The time required for the excavation and surface collections difficult to determine, but 17 person days ought to be adequate.

LA25481 (AR263)

Description: This site is a circular stone structure comprised of quartzitic and sandstone rocks. A few flakes were found in association. The tipi ring is located at the west edge of a broad, flat, grassy ridge overlooking an unnamed intermittent drainage to the west.

Cultural Afiliation: Ute

Discrepancies: The site area on the project map is much too large and too far west. No undoubted hearth area was noted in the center of the tipi ring, although a cobble concentration (not oxidized) is present which may represent a collapsed hearth. The main site area is 10 m in diameter, but one flake which was located 30 m southeast of the datum is probably associated with the site as well, making the total site area 240 square meters.

Tasks Completed: Site Stake, Site Map, General Description, Artifact Density Study and Integrity Determination.

Results: LA25481 is in good condition, with the only apparent impact being negligible effects from livestock grazing. It is considered to be 95% intact. Only five flakes were found on the site. Four were present in the 75 square meter center of the site (average density 0.05 flakes per square meter) and the fifth was located 30 m south. Overall artifact density is thus only 0.02 flakes per square meter. All flakes were interior and nonutilized; two were obsidian, two were quartzite and one was chalcedony.

Management Recommendations: That the stone ring is exposed above the present ground surface indicates that the structure's floor is not deeply buried. Wave action associated with inundation may destroy the tipi ring. Excavation of the structure could be completed in 8 person days, which would probably exhaust the site's research potential.

LA25483 (AR400)

Description: The site is located on a low terrace above a curve in the Río Puerco. It appears to have been a chert and obsidian lithic scatter. However, the site has been inundated and presently only 10 flakes could be found on the surface.

Cultural Affiliation: Unknown

Discrepancies: The site has been inundated, and as a result, heavily impacted. Only 10 flakes and no cores could be found on the disturbed surface.

Tasks Completed: Site Stake, Artifact Density Study, Determination of Dating Potential, and Determination of Subsistence Potential.

Results: A centiare was excavated in an area of the site that appeared less disturbed than other areas of the site. Excavated to a depth of 10 cm, where a hard packed sandy layer with sandstone inclusions was encountered, the unit yielded no artifacts, but some flecks of charcoal were encountered. There is no indication that these were of a cultural origin. A corner of the test unit was excavated down to 25 cm below surface in the northeast corner of the unit revealing more compact soil, sandstone, and no artifacts. Two shovel holes were excavated at the site. One shovel hole revealed the same stratigraphy as found in the test unit, but no charcoal or artifacts. The other shovel hole revealed 50 cm of a loose sandy loam as

encountered in the top 5 cm of the centiare, but no artifacts or charcoal were encountered. This last hole was placed out of the heavily impacted area, but also out of the main site area. The site is unlikely to yield subsistence data and probably will not yield significant dating data.

Management Recommendations: Inundation and other impacting agents have essentially destroyed this site. It is unlikely that the site will yield significant archaeological data. Consequently, no additional investigations are recommended for LA25483.

LA25485 (AR402)

Description: This site covers an 18,400 square meter area on four low ridges overlooking the Rio Puerco. It is classed as a quarry site on the basis of the presence of numerous chert nodules and the high percentage of large primary and secondary flakes, cores and hammerstones present. Two hearths were noted, one comprised of fire-reddened sandstone slabs and the other of sandstone slabs and quartzite cobbles. Previous site recorders considered these hearths to be historic.

Cultural Affiliation: Unknown

Discrepancies: The site is larger than the 4200 square meters estimated originally. No obsidian, basalt or quartzite flakes were noted.

Tasks Completed: Site Stake, Site Map, Artifact Density Study, Integrity Determination, and Determination of Dating and Subsistence Potential.

Results: The site was found to be in good condition, but only 70% intact due to impacts from livestock, downslope and channel erosion, deflation, and periodic inundation. A radial transect artifact density study was conducted in each of the four artifact concentrations on the site, and the results are as follows: Concentration A - 0.87 flakes/square meter and 0.07 cores/square meter; Concentration B - no artifacts present in sample units; Concentration C - 0.41 flakes/square meter; and Concentration D - 0.29 flakes/square meter, for an overall average density of 0.41 flakes/square meter. A 1 m by 1 m test unit was excavated to a depth of 20 cm in Concentration A in a flat area which appeared to have some soil depth and which was not far from a hearth. It was found to be culturally sterile, as were three shovel test holes excavated in Concentration C. Future excavation of the surface hearths will likely yield dating and subsistence information for the site.

Management Recommendations: While no additional subsurface investigations seem warranted, surface collections from each of the four artifact concentrations should be made. If sample units 2 m in diameter and 5 m apart are defined along radial transects in each concentration, a sample sufficiently large to compare intra-site lithic

variability would be obtained. Significant differences in material types and reduction strategies would point to distinct occupations or functions. This collection strategy at LA25485 would require 2 person days. More detailed surface artifact analysis might also be productive, however.

LA25487 (AR404)

Description: The site is an historic homestead located on a terrace just above the floodplain of the Rio Puerco. Five structural features were observed on the site including a fairly intact house structure built of sandstone blocks and mud mortar. Historic artifacts present include fragments of porcelain dishes, Tewa black ceramic sherds, micaceous ware ceramics, purple glass, and metal. A few chert flakes were found on the site. Also, one tiny side-notched obsidian projectile point was observed in the foundation area to the north-northeast of the main house structure.

Cultural Affiliation: Hispanic

Discrepancies: None

Tasks Completed: Site Stake

Results: The site has been impacted by livestock trampling, downslope erosion, and deflation. Although the structural elements of the house are still in good shape, some of the other structures are in more deteriorated condition. In general, however, the site is considered to be 75% intact.

Management Recommendations: Since architectural features can be well-defined from surface observation and the present ground surface probably correlates well with the original living surface, extensive subsurface testing does not seem warranted. Field investigations should primarily concentrate upon obtaining dates for the site. This could be achieved via a 100% collection of all temporally diagnostic artifacts such as ceramics, china, glassware, and tin cans, and by the collection of tree-ring specimens. Posts, perhaps suitable for tree-ring dating, are present in the corral. These tasks would take approximately 2 person hours. Schaafsma (1976) notes that some local people remember information on the Hispanic farms in the Puerco Valley, and that interviews with these people would be productive. Specifically, Schaafsma (1976:113) states that Mr. Uvaldo Valesquez of Youngsville is particularly well informed on the Puerco settlements. Interviews with local informants would not only provide site specific information, but would also contribute to our overall understanding of Hispanic occupation of the project area.

LA25505 (AR57 and 506)

Description: The site consists of an extensive lithic scatter with at least three flake concentrations on a broad terrace which

overlooks the Rio Chama. Chert and obsidian (Polvadera Peak) interior flakes predominate. Two chert cores, several chert nodules and an obsidian projectile point were noted. Two En Medio projectile points were collected when the site was originally recorded. An 8 m by 3 m cobble area which appears to represent one or more hearths is present.

Cultural Affiliation: Archaic

Discrepancies: The total site area is only 15,000 square meters, not 30,000, although the site dimensions as originally recorded are accurate. The cobble area does not resemble the photographs of distinct piled cobble hearths taken when the site was recorded, perhaps due to their subsequent collapse.

Tasks Completed: Site Stake, Artifact Density Study and Integrity Determination.

Results: The site is in excellent condition and is judged to be 95% intact. Slight downslope erosion has occurred, the area has been grazed, and a two-track road borders the eastern edge of the site; none of these have caused adverse impacts. A radial transect artifact density study revealed that the average density is 0.3 flakes per square meter.

Management Recommendations : Future data recovery at this site should be directed towards testing the hearth areas and obtaining a representative sample of the site's surficial artifacts. The excavation of three centiares located in the hearth areas might result in chronometric dates and subsistence information. The excavation would take 1½ person days. The site is large enough and has a high enough artifact density as to make a 100% artifact collection impractical, though possibly productive. Sufficient information on artifact distributions could be obtained if an imaginary grid with 2 m by 2 m squares is superimposed over the site and a random 10% sample selected. These 375 sample units could then be located and collected in approximately 3 person days.

LA25506 (AR514)

Description: The site is a small (1500 square meters) lithic scatter with one 10 square meter area of dense flakes surrounded by a very diffuse scatter of lithics over a 40 m by 50 m area. No prepared tools or cultural features were observed, and bedrock is visible around the western and southern edges of the site.

Cultural Affiliation: Unknown

Discrepancies: The total site area is smaller than the 2500 square meters originally recorded.

Tasks Completed: Site Stake, Site Map, General Description, Artifact Density Study, and Determination of Integrity, Depth, Dating Potential and Subsistence Potential.

Results: LA25506 is in fair condition, being somewhat eroded by slope wash and deflation. It is judged to be 90% intact. The artifact density of the flake concentration is judged to be 10 flakes/square meter. Average flake density in the remainder of the site is 0.05 flakes/square meter, as determined by a radial transect sample. Artifacts are predominantly secondary and interior chert and chalcedony flakes, some of which are utilized. Six obsidian interior flakes were noted. Shovel testing was conducted to ascertain the shallow soil depth indicated by bedrock outcrops. Four shovel holes were excavated, and bedrock was encountered between 5 cm and 20 cm in each. All were devoid of cultural material. The site has little potential for yielding subsistence and dating information.

Management Recommendations: Most of this site's potential lies in studies of the distribution of surface materials. It is therefore recommended that 100% of the surface artifacts be collected. The dense 10 square meter concentration could be collected by superimposing a grid of 1 meter squares, and by mapping the grid in reference to the site stakes. This method will retain much provenience information, but will be rapid to employ. It is suggested that the sparse scatter of lithics outside of the concentration be mapped and collected at a 100% level. It is anticipated that the collection task will require 8 person hours to complete.

LA25507 (AR515)

Description: The site is a dense lithic scatter concentrated in a 30 square meter area surrounded by a lighter lithic scatter measuring approximately 100 m by 80 m. It is located on a southwest-facing hill-slope just above the present water level of the reservoir, in pinyon-juniper on the western edge of a large grassy clearing. No features were observed other than a possible hearth consisting of a concentration of large rocks near the grassy clearing and northeast of the main lithic area. Artifacts are predominantly secondary and interior chert flakes, with some chalcedony flakes and a few Polvadera Peak obsidian flakes.

Cultural Affiliation: Unknown

Discrepancies: The site is more extensive than previously noted, covering 8000 rather than 3500 square meters. The possible hearth was not recorded earlier. Site LA25507 is contiguous with LA25510, to the south.

Tasks Completed: Site Stake, Site Map, General Description, Artifact Density Study, and Determinations of Integrity, Depth, Dating Potential and Subsistence Potential.

Results: The site is in good condition, having been slightly impacted by off-road vehicles, downslope erosion and episodic inundation. It is estimated to be 90% intact. A radial transect artifact density study was conducted, and flake density was found to average

0.61 flakes per square meter. A 1 m by 1 m test unit was excavated to a depth of 25 cm in the area of the densest lithic concentration. Artifacts were found in decreasing numbers below the uppermost few centimeters of soil, and the total depth of the cultural stratum is judged to be only 15 cm. A total of 49 nonutilized flakes was recovered from the subsurface including one obsidian interior flake, one quartzite interior flake, three chert interior flakes, 42 chalcedony interior flakes, and two chalcedony secondary flakes. An additional 11 chalcedony interior flakes were collected from the surface of the centiare. No charcoal was present. Dating and subsistence data may be buried at the site, however, if the possible hearth proves to be an archaeological feature.

Management Recommendations: Since artifacts are generally confined to the present ground surface and the uppermost 15 cm, it seems that surface studies rather than test excavations will recover the most data. It is suggested, however, that a meter square test unit be excavated atop the possible hearth to determine its function and to possibly date the site. The site's size and artifact density is such that a sample of the surface artifacts would be expedient, although more detailed analysis might also be productive. It is suggested that a grid with 2 m by 2 m squares be superimposed over the site and that 10% percent of the squares be randomly selected for collection. This would entail the definition and collection of 200 grid squares, a task requiring approximately 3 person days. The excavation of the centiare will take approximately 4 person hours.

LA25512 (AR521)

Description: The site is a sparse lithic scatter located on a southwest-facing alluvial terrace above the reservoir. Artifacts cover a 1600 square meter area and consist of chert and Polvadera Peak obsidian flakes, an obsidian biface fragment, two fragments of the same large corner-notched obsidian projectile point, and a possible large sandstone slab metate. The original site recorders collected a Basketmaker II projectile point, a point tip, and two scrapers. No cultural features are apparent, but a 1 m deep drainage cut in the northern portion of the site demonstrates that the soil on the terrace has considerable depth.

Cultural Affiliation: Basketmaker II

Discrepancies: The site is somewhat smaller than the 2500 square meters stated on the site form.

Tasks Completed: Site Stake, Site Map, and Artifact Density Study.

Results: LA25512 is in good condition, and is approximately 90% intact. A fence runs across the site, and vehicle tracks are also present. The site has also been subject to downslope and channel erosion, but the impacts are minimal. A radial transect artifact density study was conducted, revealing a density of 0.18 flakes per

square meter. The possible metate and the point base also fall within the sample units.

Management Recommendations: It is suggested that 100% of the artifacts on this site be mapped and collected, and that 10 one meter square test units be excavated. The mapping and collection task would take approximately 1 person day to complete. To date, no subsurface tests have been completed at this site, in spite of possible soil depth. Excavation of 10 test units would provide data on the depth of cultural deposits across the site, might encounter buried obsidian that could be used in obsidian hydration studies, and might even reveal buried features. The test units should be randomly located across the site. The excavations would require approximately 5 person days to complete.

LA25513 (AR522)

Description: The site is a very diffuse lithic scatter of chert, chalcedony and obsidian (Polvadera Peak and "other") flakes located on a flat terrace above an intermittent drainage with sandstone ledges. Interior and secondary flakes cover a 4400 square meter area. One core was also observed, and a Basketmaker II projectile point and a knife were collected on the previous survey. There is no surficial evidence of features, structures, charcoal, or subsurface cultural materials.

Cultural Affiliation: Basketmaker II

Discrepancies: The site is more extensive than the 2500 square meters originally recorded.

Tasks Completed: Site Stake, Site Map, Artifact Density Study, and Determination of Integrity, Depth, Dating Potential and Subsistence Potential.

Results: This site is in good condition, having been slightly impacted by off-road vehicular traffic, livestock, downslope and channel erosion, and deflation. It is estimated to be 90% intact. The radial transect artifact density study revealed that flake density averages 0.05/square meter. Four shovel tests were placed in flat areas and near artifact concentration, but no subsurface cultural material was found. The site is unlikely to yield significant dating and subsistence data.

Management Recommendations: One person day of labor would be required to map and collect all surface artifacts. This would ensure that little loss of data would result as a result of inundation. Subsurface tests do not appear to be warranted.

LA25516 (AR526)

Description: According to the original site form, the site

consists of a 1000 square meter lithic area with large cobbles and flakes. The site was not relocated.

Cultural Affiliation: Unknown

Discrepancies: The site could not be relocated.

Tasks Completed: None

Management Recommendations: No new data was generated with which to derive management recommendations.

LA25518 (AR528)

Description: The site is a small localized lithic scatter consisting of obsidian and chert flakes which is located on the south side of a small intermittent tributary of Iron Springs Wash. One biface and one unifacial scraper were found although no diagnostic artifacts or cultural features were observed. The majority of flakes on the site were interior; however, a few primary and secondary flakes were also present.

Cultural Affiliation: Unknown

Discrepancies: The site was incorrectly plotted on the topographic map; that is, it should have been located further east.

Tasks Completed: Site Stake, Artifact Density Study, Determination of Dating Potential, and Determination of Subsistence Potential.

Results: The site has been extremely eroded by both channel and downslope erosional forces as well as impacted by livestock trampling. It is estimated that only 10% of the site remains intact. Artifact density on the surface was 0.45 artifacts per square meter. A centiare was excavated in the central portion of the site to a depth of 30 cm where a shaley non-cultural soil was encountered. Ten Polvadera Peak obsidian interior flakes were recovered in the loam above the shaley soil, but no charcoal or cultural features were encountered. Present data suggests that the site is unlikely to yield significant subsistence or dating information.

Management Recommendations: Erosion has apparently affected the site to the extent that detailed studies of surficial artifact distributions would probably not provide important information. Consequently, it is suggested that a radial transect sampling scheme be used to obtain a sample of the types of materials present, utilizing 2 m diameter sample units spaced at 5 m intervals. Further, all surficial prepared tools should be collected. Excavation of the centiare indicated that artifacts were buried up to 25 cm or 30 cm below the present ground surface. While not horizontally extensive, the depth of artifacts suggests the possibility that important data are buried at the site. To further assess this possibility, it is recommended that four additional meter square test units be excavated at randomly

selected locations across the site. This and the surface collection task will require approximately 2½ person days to complete.

LA25574 (AR261)

Description: The site is a very large lithic scatter with three dense lithic concentrations covering a mesa top and the western slope of the mesa. Artifacts are predominantly chert and chalcedony flakes, but some Polvadera Peak obsidian and other obsidian was also observed. Several tools (four biface fragments, one scraper) and two hearths were observed on the mesa top. Two tipi rings were noted below the mesa top.

Site LA27017, a small masonry structure, is located directly below the mesa top on which LA25574 lies. There is a continuous lithic scatter between the two sites.

Cultural Affiliation: Unknown

Discrepancies: The site area is larger than previously noted and is contiguous with site LA27017. Also, the presence of hearths and tipi rings on the site's surface was not previously noted.

Tasks Completed: Site Stake, Site Map, Artifact Density Study, Determination of Dating Potential, and Determination of Subsistence Potential.

Results: Seven to five percent of this large site is estimated to be intact and the site, in general, is in good condition. Impacts to the site include off-road vehicle travel, livestock trampling, and a road through the site. Artifacts are present on the surface at a density of 0.46 artifacts per square meter.

A centiare was placed in one of the lithic concentrations and excavated to a depth of 25 cm below surface. Six flakes (one Polvadera Peak obsidian, four chalcedony, and one chert) were recovered from the top 8 cm of the unit in loose sandy soil. No charcoal or cultural features were encountered in the subsurface. A previously excavated pit near the test unit was examined, but no cultural features or charcoal was apparent in it either. Dating and subsistence information is not likely to be recovered at this site.

Management Recommendations: This large and complex site will require a substantial amount of additional work. The site's integrity is such that analysis of surface artifacts might be productive; the density of artifacts and the large site size, however, make a study involving 100% of the surface artifacts impractical. Perhaps the most practical method to collect surface artifact data would be to utilize a systematic random sample with transects. The use of transects would require less time to execute than grid squares. While not preserving as much provenience information as grid squares, artifacts from the various lithic concentrations could be collected separately if the transects were oriented at right angles to the mesa top, from east to

west. It is suggested that the location of the first east to west transect be randomly defined at one end of the site, and that parallel east to west transects, measuring 1 m wide and spaced at 20 m intervals, be subsequently defined and collected. Subsurface excavations should be conducted at the two tipi rings and at the two mesa top hearths. These features should be completely excavated, and samples for ancillary studies should be collected as required. None is expected to extend deeply below the present ground surface. It is anticipated that the surface collection will require approximately 1 person day, and that the excavations will require 13 person days to complete.

LA25575 (AR510)

Description: The site is a scatter of chert and obsidian (predominantly Polvadera Peak) flakes located on a terrace between small intermittent drainages. One prepared tool, a biface preform, and one hearth comprised of six large cobbles in a 70 cm by 70 cm area were located. Three tools were collected previously.

Cultural Affiliation: Unknown

Discrepancies: The lithics are not dense as previously recorded, and the "possible" hearth is a definite feature. Soil at the site is gravelly. The slope is southerly, and approximately 5-10°. An estimate of total flakes on the surface should be 100-200 flakes, not "low 1000's."

Tasks Completed: Site Stake, Artifact Density Study, Determination of Dating Potential, and Determination of Subsistence Potential.

Results: In general, the site is in good condition, with 90% of the site intact. Impacts to the site include livestock grazing, downslope erosion, and the surface collection of tools by previous surveyors. Surface artifacts are distributed on the site at a low density of 0.16 flakes per square meter. Subsurface testing was not undertaken at this site due to the presence of an intact hearth which has the potential to yield radiocarbon dates and subsistence data. Also, subsurface obsidian is likely to be present. Surficial obsidian was 80% of the Polvadera Peak variety and 20% other. Tools found on the surface of the site which may yield information on subsistence practices include one drill, one knife, one preform, and one reworked projectile point.

Management Recommendations: It is suggested that 100% of the surface artifacts be mapped and collected, a task requiring approximately 4 person hours to complete. Limited subsurface testing should also be completed, in order to collect the hearth contents, collect buried obsidian specimens, and to determine depth of cultural deposits. This could be completed with the excavation of 5 square meters, locating one in the central portion of the site, and the four others at

random locations within designated quadrants. These tests will take approximately 2½ days to complete.

LA25576 (AR511)

Description: The site is a scatter of obsidian and chert flakes located on a slight west-facing slope on the east edge of a drainage. No prepared tools were noted. One hearth (ca. 1 m in diameter) comprised of large cobbles is located at the upper end of the artifact scatter.

Cultural Affiliation: Ute (?)/Anasazi (BMIII-PI)

Discrepancies: No tipi ring was found. No hearth was noted on the site form, but one is definitely present and is associated with the lithic scatter. Additionally, the site is actually located slightly southwest of the point shown on the project map.

Tasks Completed: Site Stake

Results: The site was found to be in good condition. The impacts of surface collection, livestock grazing, downslope erosion, and channel erosion have left the site 75% intact. The only tool found on the site had been previously collected and assigned an Anasazi BMIII-PI cultural affiliation. The intact hearth, appearance of deep soil (as indicated by the drainage cut at the west end of site), presence of obsidian, and diagnostic projectile points indicate that this site has good research potential.

Management Recommendations: This site has additional research value since it may represent a relatively rare Anasazi Basketmaker III or Pueblo I period occupation of the project area. This and its good condition indicate that further investigations may be productive. Work at this site should begin with mapping and collecting all surface artifacts. This task will take an estimated 1 person day to complete. Next it is suggested that the surface hearth and 10 centiares be excavated, the latter scattered randomly across the site. Use of numerous small test units will maximize the probability of encountering important buried features. The excavation of 11 test units will require approximately 5½ days to complete.

LA27004 (AR54)

Description: The site is a small scatter of flakes in a well-defined area atop a low ridge between minor drainages. Artifacts consist predominantly of white and other chert interior flakes. Only two obsidian flakes were noted and no prepared tools were found. No cultural features are apparent. Historic artifacts found on the site (tin cans, spools for wire) may be associated with an old barbed wire fence which crosscuts the site, and with abandoned Highway 84. An En Medio projectile point has been previously collected at this site.

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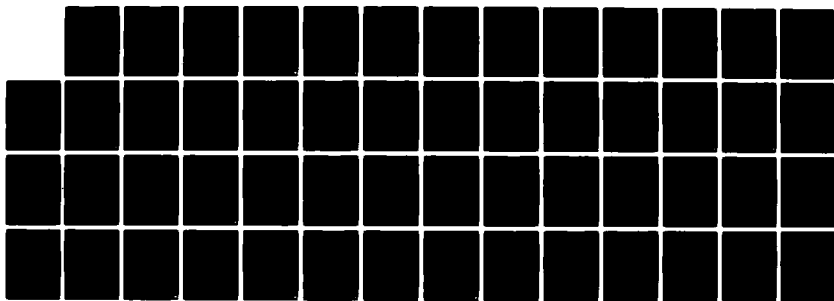
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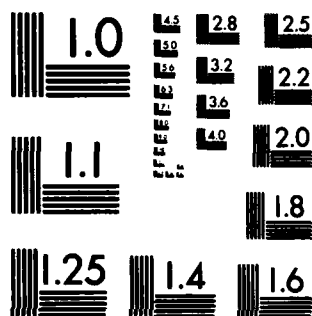
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Cultural Affiliation: Archaic

Discrepancies: No "core tools" were noted.

Tasks Completed: Site Stake, Artifact Density Study, Determination of Dating Potential, and Determination of Subsistence Potential.

Results: The site, in general, is in good condition and 90% intact. Off-road vehicle use, livestock grazing and downslope erosion are the major factors by which the site has been impacted. In the center of the artifact concentration, a centiare was excavated to 30 cm below the surface. Lithic flakes were found in all of the three excavated 10 cm levels, buried in root zone soils and an underlying red brown loess. All of the flakes were interior; two were chert, one was chalcedony, and one was Polvadera Peak obsidian.

Full excavation of the centiare was terminated at 30 cm below surface where a soil change was encountered. However, a shovel probe in the southwest corner of the centiare proceeded through the sterile soil and reached colluvium at 50 cm below the surface. No charcoal or cultural features were encountered in the centiare or in a shovel hole placed near an artifact concentration 26 m southwest of the datum which also yielded no artifacts. Artifact density on the site was 0.27 per square meter.

Management Recommendations: That artifacts were discovered down to 30 cm below the present ground surface indicates that significant subsurface materials may be present. Further testing is necessary, however, to verify or reject this possibility. It is suggested the site be divided into quadrants and that one centiare be randomly located in each quadrant and excavated. This will require approximately 2 person days to complete. In addition, it is recommended that all surface artifacts be mapped and collected. This latter task will take approximately 1½ person days to complete.

LA27005 (AR55)

Description: The site is a very thin lithic scatter with one possible prehistoric hearth, located on several ridge edges and on the hillslopes down from these ridges. Vantage from the site is good to the south and west overlooking the reservoir. There is a lithic concentration at the northwest edge of the site, and a recent fire hearth near the highway at the northeast end of the site. Two cobble piles, one of large cobbles and the other of small cobbles, are located near each other on the west central portion of the site (a ridgetop). Artifacts are primarily chert and chalcedony flakes and cores. Three Polvadera Peak obsidian flakes were also noted. No diagnostic artifacts were found; the only tools observed were utilized flakes. The gravel areas of the site probably served as a lithic source area as natural chert, quartzite, and chalcedony nodules occur there.

Cultural Affiliation: Unknown

Discrepancies: A hearth and two strange cobble piles, not previously recorded, were found on the site.

Tasks Completed: Site Stake, Artifact Density Study, Determination of Dating Potential, and Determination of Subsistence Potential.

Results: This site is considered to be 90% intact although only in fair condition. It has been impacted by livestock trampling, downslope erosion, and episodic inundation.

Subsurface testing was not conducted at this site due to the presence of the hearth and surficial obsidian of the Polvadera Peak variety which, due to their presence alone, indicate that the site has potential to yield dating and subsistence information. An artifact density of 0.12 per square meter was calculated.

Management Recommendations: Test excavations should be oriented towards discerning the function of the enigmatic rock piles and recovering hearth contents. In addition to the prehistoric hearth in the northeastern portion of the site, there is a possibility that another hearth is located in the artifact concentration in the northwestern portion of the site. It is suggested that a 2 m by 1 m trench be excavated in the lithic concentration to verify if hearths are indeed present in this area. The remaining prehistoric hearth and the two cobble piles could be adequately investigated by the excavation of a meter square in each. The total excavation phase will require approximately 2½ person days. A 10% random sample of the surface artifacts would also be in order. A grid with 2 m squares could be used; this task would require approximately 5 person days to complete.

LA27007 (AR59)

Description: The site is a large lithic scatter with occasional dense concentrations comprised of white chert and Polvadera Peak obsidian located along a southeast-northwest oriented ridgetop to the northwest of Arroyo Chamiso. One obsidian projectile point and a chert biface fragment were found on the surface. A small area at the southwest end of the site (just northwest of the datum) appears to have been excavated. A metal-post barbed wire fence runs through the site. No cultural features were observed.

Cultural Affiliation: Archaic: En Medio - BMII

Discrepancies: The site was correctly located on the topographic map, but incorrect on the sketch map (i.e., it should be on the other side of the fence). The sketch map more closely resembles LA25575. Material types at the site are closer to 50% white chert and 50% obsidian than 90% chert and agate. The original estimate of thousands of flakes is probably accurate (Beal (1980) observed only 15). Site size is approximately 150 m x 75 m rather than 200 m x 100 m.

Tasks Completed: Site Stake, Artifact Density Study, Determination of Dating Potential, and Determination of Subsistence Potential.

Results: This site is in excellent condition and 80% intact. The factors which have impacted the site are possible vandalism, heavy equipment/construction activity, downslope erosion, and channel erosion. A projectile point attributed to an En Medio - BMII affiliation has previously been collected from the site. Additionally, a corner-notched projectile point and a biface fragment were noted on this revisit. The artifact concentrations present at the site differ in material type composition indicating the possibility that they each represent intact activity areas. Artifact density on this site was 0.49 per square meter.

A centiare was excavated in the vicinity of the prepared tools which were found on the surface. The unit yielded artifacts to a depth of 40 cm where a soil change was encountered in the form of inclusions of light colored sand in the red silt layer. A shovel hole was excavated below this in the northwest corner of the centiare revealing a definite sand layer beginning at 60 cm below surface and extending to 85 cm. Most of the artifacts, 16 of 22, were recovered from the loose root zone (0-22 cm below surface). The artifact assemblage from the centiare was comprised of nine chalcedony, four chert, one siltstone, and one quartzite flakes. All but two were secondary; one was utilized. No subsurface obsidian, cultural features, or charcoal was encountered in the centiare excavation. Present data suggests that the site's potential for yielding subsistence and dating information is low.

Management Recommendations: That artifacts were found to a depth of 40 cm below the present ground surface suggests that significant cultural materials may be buried at the site. The site is horizontally extensive, however, and to test a sizeable percentage of the site area would be a large undertaking. A decision to proceed with extensive testing of this site should be preceded by the formulation of a project-wide research design; extensive excavations should only occur if the site is thought to have the potential to answer specific research questions concerning the Late Archaic occupation of the project area. Further, other contemporaneous sites must be considered, for it is possible that they may be more informative and cost-effective to excavate. While large scale excavations are a viable management option, a case can also be made for more limited investigations. Considering that long-term inundation will probably have minimal impacts on the condition and distribution of buried lithics, efforts could be oriented towards the preservation of surface materials. It is suggested that a 10% sample of the surface artifacts be collected by using a grid with 2 meter squares. It would take approximately 7 person days to conduct the surface collections. It would also be appropriate to excavate 20 additional centiares at randomly selected locations across the site, to provide a broader picture of site depth and nature. This information would be useful if further excavations are considered. The test excavations would require approximately 10 person days to complete.

LA27023 (AR260)

Description: The site is comprised of two small rock overhangs with an associated lithic and sherd scatter and a hearth represented by upright sandstone slabs. Near the hearth, which is located below the western overhang, two obsidian projectile points were observed. The overhangs appear to have cultural deposition as charcoal was observed on the floors. A crude sandstone wall alignment exists under the western overhang which is approximately 6 m x 5 m in size. The wall is approximately 3 m long. The eastern overhang is approximately 5 m x 3 m in area and has fewer artifacts associated with it. Most of the artifacts are located on the slope below the overhangs. Lithic materials present were chert, quartzite, and obsidian. Ceramics were plain and of two types: a dark grayware with sand and rock temper and a uniform buff ware with sand temper.

Cultural Affiliation: Navajo

Discrepancies: No pictographs were observed. There are two overhangs, rather than one as mentioned on the site form, and the site size is 35 m x 20 m rather than 15 m x 20 m.

Tasks Completed: Site Stake

Results: Although the site has been impacted by livestock, downslope erosion, and channel erosion it is still in good condition and 90% of the site is intact. Part of the hearth near the stream has been impacted by erosional forces.

Management Recommendations: Extensive tests of the two rockshelters are in order to preserve perishable floral and faunal materials and to obtain chronometric dates. Further, the possibility that the site has stratified cultural levels cannot be discounted on the basis of present data. If multiple occupations are present then important technological and subsistence research questions can be addressed. It is proposed that test trenches extending a few meters past the dripline to the back of the rockshelter be excavated in both rockshelters. This would require a 1 m by 6 m trench in the western overhang, and a 1 m by 4 m trench in the eastern overhang. Samples for ancillary studies should be liberally collected. It is estimated that these excavations will require approximately 20 person days to complete; longer if cultural strata are over a meter deep. A 100% surface collection and mapping effort should also be conducted. This latter task will require approximately 1 person day on this site.

LA27024 (AR405)

Description: The site is located on a terrace just above the Rio Puerco floodplain. A semicircular cobble alignment under an overhang of a sandstone boulder forms a small rockshelter area. Unclear historic petroglyphs are pecked into the east face of the sandstone boulder. Natural chert cobbles are scattered across the 400 square meter site, as are primary, secondary and interior chert flakes.

Cultural Affiliation: Unknown; the relationship between the historic petroglyphs (a Spanish inscription) and the rockshelter is undetermined.

Discrepancies: Previous surveyors noted a hearth near the boulder, but none could be discerned. The site map notes three areas of artifact concentration, but only Area 2 is denser than the rest of the site in general. No culturally flaked basalt was noted. The site is smaller than the 1000 square meters noted on the site form.

Tasks Completed: Site Stake, General Description, Artifact Density Study, and Integrity Determination. A good map of this site was found, so it was not remapped.

Results: The site is in good condition. It is judged to be 70% intact, and has been impacted by livestock, deflation, and to a lesser degree, downslope and channel erosion. If what was recorded as a hearth actually is a hearth, then it has been subject to quite a bit of erosion. Artifact density was found to average 0.29 flakes/square meter and 0.06 cores/square meter.

Management Recommendations: Future research at the site should concentrate on the prehistoric component. It is suggested that 100% of the surface artifacts be mapped and collected, a task which would require approximately 6 person hours. Further, it is recommended that two one meter square test units be excavated, one in the approximate vicinity of the previously recorded hearth and one in the alcove. The area beneath the rockshelter is quite small and probably shallow; the excavation of a centiare in it would nearly result in its complete excavation. Though small, important subsistence and dating specimens may be buried in the alcove. Excavations would require approximately 1 person day to complete.

LA27025 (AR406)

Description: The site is a sparse lithic scatter located on a ridge overlooking Rio Puerco in a boulder field. Numerous chert cobbles are scattered across the site and the flakes present appear to be derived from such cobbles. Much of the site is eroding downhill.

Cultural Affiliation: Anasazi BMIII-PI

Discrepancies: A previously recorded hearth and charcoal area could not be relocated. Also, the quantity of flakes present is estimated to be low hundred's rather than mid hundred's to low thousand's.

Tasks Completed: Site Stake, Integrity Determination. The Artifact Density Study was mistakenly omitted.

Results: The site area is heavily eroded and deflated. Probably only 40% of the site can be considered to be intact.

Management Recommendations: Beal (1980) writes that limited test excavations have been conducted at this site, which have produced a radiocarbon date of A.D. 680. This date was derived from a surface hearth, perhaps explaining why the hearth originally recorded was not found. Beal (1980), adds that little stratigraphy is evident at this site. Considering the site's poor condition and previous investigations, it seems that subsequent efforts should be aimed at securing a representative sample of the site's surface artifacts. This could be done using a radial transect technique, with 2 m diameter sample units spaced at 5 m intervals. This would require approximately 4 person hours to complete. More detailed surface artifact analysis is probably not warranted, considering the site's condition.

LA27029 (AR501)

Description: This site was originally recorded as two possible tipi rings and a linear rock alignment with no associated artifacts. When revisited, it was found to be non-cultural.

Cultural Affiliation: Non-cultural

Discrepancies: The features were found to be natural.

Tasks Completed: None

Management Recommendations: No further archaeological investigations are necessary at this location.

LA27036 (AR516)

Description: The site consists of several lithic reduction areas located in a 3200 square meter area on the steep slopes of a terrace. No material was observed on the level terraces above or below the slope. The slope is covered with cobbles, including natural cherts. Artifacts appear to be strictly surficial.

Cultural Affiliation: Unknown

Discrepancies: The site was originally recorded as several chipping areas with six or more hearths comprised of fire-cracked rocks. However, no fire-cracked rock was observed and flake density overall is quite low and localized.

Tasks Completed: Site Stake, Artifact Density Study, and Integrity Determination.

Results: LA27036 is in fair condition, having been subjected to downslope erosion. It is considered to be 90% intact. The radial transect study revealed an average density of 0.08 flakes/square meter.

Management Recommendations: Since the site is located on moderate to steep slopes covered by gravel and sandstone outcrops, it is

unlikely that soil deposits are deep. This, and the fact that none of the hearths recorded earlier were observed, suggests that subsurface testing is not necessary. Further, artifacts are so diffuse as to make a 100% or grid-sample surface collection difficult. Consequently, it is suggested that three radial transects be defined at locations across the site, and that artifacts be collected in 2 m diameter units spaced at 10 meter intervals. This task will require 4 person hours to complete. More detailed intrasite analysis of surface artifact distributions may also be productive.

LA27038 (AR530)

Description: The site is an extensive lithic scatter of chert flakes and nodules located above the Rio Puerco on a terrace. Also at the site is a sandstone boulder which overhangs a small area that is ringed with sandstone cobbles. One obsidian biface tip was found on the site. The soil is quite rocky.

Cultural Affiliation: Unknown

Discrepancies: No Tewa ceramics were noted on this visit to the site; all must have been previously collected.

Tasks Completed: Site Stake

Results: The site is considered to be 70% intact and in good condition. Impacts to the site include livestock trampling, downslope erosion, and channel erosion. There is no fill in the area encircled by sandstone cobbles as indicated by the bedrock exposed there. This same sandstone bedrock outcrops all over the site giving the appearance of little subsurface depth to the pockets of soil present.

Management Recommendations: That the natural shelter is devoid of soil and the potential for buried cultural materials on the site is low suggests that subsurface tests may be unnecessary. It is suggested that the site be surface collected at a 10% sampling fraction, utilizing a grid with 2 m by 2 m squares. Completion of this task will require approximately 5 person days.

LA27042 (AR705)

Description: The site is a 6000 square meter lithic scatter situated above and west of a saddle connecting two ridges along Comanche Canyon. Artifacts are predominantly obsidian (Polvadera Peak and "other") flakes, with chert and chalcedony also present. One large side-notched obsidian projectile point was noted. No cultural features were observed.

Cultural Affiliation: Unknown

Discrepancies: There has been no direct impact to the site from inundation, although Comanche Canyon has been inundated.

Tasks Completed: Site Stake, Artifact Density Study, Integrity Determination, and Determination of Dating and Subsistence Potential.

Results: The site is in good condition, and has been affected by livestock, downslope erosion, and deflation around the edge of the canyon rim. It is estimated to be 80% intact. An artifact density study was conducted by means of the radial transect method. Flake density was found to average 0.24 flakes per square meter. Three shovel test holes were placed near the center of the site; no cultural materials were found in the 25 cm - 30 cm excavated in each. Dating and subsistence potential is low for the site.

Management Recommendations: This site is primarily surficial, and is in good enough condition to warrant further surface artifact analysis. Consequently, it is recommended that a sample of the surface artifacts be collected prior to project impacts. Due to the site size and artifact density, it is suggested that a 10 percent sample be randomly derived, utilizing a grid with 2 m by 2 m squares. This would entail the location and collection of 150 sample squares, a task requiring approximately 2 person days to complete.

LA27044 (AR707)

Description: The site was originally described as being a 6000 square meter chipping area containing hundreds of flakes, two rock piles of indeterminate affiliation and two other possible hearths. Revisitation located only a very sparse scatter of flakes and none of the features leading field personnel to believe that they had not relocated the proper site.

Cultural Affiliation: Unknown

Discrepancies: The site was not relocated.

Tasks Completed: None

Management Recommendations: Since the site as recorded could not be relocated, no management recommendations can be offered.

LA27046 (AR710)

Description: The site is a lithic scatter located on a terrace above the Rio Puerco. The soil is very rocky and includes many natural chert nodules. Flakes are predominantly secondary and primary; some obsidian (Polvadera Peak) flakes were observed. No tools or features were observed. Tewa Red and Tewa Tan sherds were collected when the site was first recorded.

Cultural Affiliation: Navajo

Discrepancies: The site was originally recorded as three habitation/camp areas near hillside quarry areas, with one hearth and a possible corral. None of the features could be relocated. An area that could be Locale 3 was found on the basis of the configuration of

the boulders and juniper trees. However, the slope area and the area along the river was searched, and no other possible sites were found.

Tasks Completed: Site Stake, Artifact Density Study, Integrity Determination, and Determination of Dating and Subsistence Potential.

Results: The site is in fair condition, and is judged to be only 50% intact. It has suffered impacts from livestock, downslope and channel erosion, deflation, aggradation, and possibly from episodic inundation. An artifact density study revealed an average of 0.37 flakes per square meter and 0.01 cores per square meter. A 1 m by 1 m test unit was excavated near possible Locale 3, near an area containing flakes and where the surficial soil was somewhat ashy(?) in appearance. Decomposed sandstone was encountered at 5 cm to 10 cm below ground surface, and no cultural material was found. Lack of substantial soil depth suggests low potential for subsistence and dating data recovery.

Management Recommendations: Further research at this site should concentrate on the surface artifacts, in that the site appears to lack substantial depth. If hearths can be relocated during subsequent investigations they should be excavated, but it seems likely that they have been destroyed. Since the site appears to have functioned primarily as a lithic quarry, and so probably has relatively few tool types present, and since site disturbance has been extensive, it is suggested that the radial transect technique be utilized to obtain a sample of the artifacts present. Sample units 2 m in diameter, spaced at 10 m intervals could be collected in approximately 4 person hours.

Remaining Flood Pool Impact Unit

The 11 task sites within the boundaries of this impact unit will be subjected to occasional but rare inundation, according to the scope-of-work. Considering the long time span that the Abiquiu Reservoir will operate, it is likely that many of the sites in this unit will be destroyed by repeated wave action. Those sites not so destroyed will be subject to siltation and brief episodes of inundation and its associated adverse effects. Consequently, rather extensive data recovery measures are recommended for these sites.

LA25379 (AR121)

Description: The site consists of an overhang, 12 slab-lined hearths/cists, and one dry-laid masonry wall situated in a 378 square meter area on a south-facing slope immediately above an intermittent drainage. Although a few lithics were found above the rockshelter ledge area, the features and majority of cultural material were found below the sandstone ledge on the slope leading down to the drainage. The majority of slab-lined pits show signs of fire-reddening, and large quantities of fire-reddened rock, fire-cracked rock, charcoal, and ash deposits were noted, much of which is washing downslope. Earlier site recorders noted mid-fifteenth century Tewa pottery, Apache

micaceous/Navajo utility pottery, and a Puebloan period projectile point.

Cultural Affiliation: Unknown; Archaic, Puebloan and Navajo have been postulated.

Discrepancies: No ceramics or lithic concentrations were noted. It seems unlikely that Structure A was a hogan. The slab-lined pits may have served as cists as well as fire pits.

Tasks Completed: Site Stake, Artifact Density Study and Integrity Determination.

Results: The site has been excavated but apparently not back-filled. It is heavily eroded from washing action and it appears that the back dirt and excavated rock has washed over the slope area, covering the lower portion of the site. The site has also been damaged by channel erosion and burrowing, and is in poor condition. It is judged to be 15% intact, with the features still structurally intact, although excavated. It appears that surface artifacts were collected as well, as only 16 flakes and no sherds were found.

Management Recommendations: The site's poor condition and the fact that approximately 60% of the site has been excavated by the Archaeological Field School at Ghost Ranch (Beal 1980:40) indicates that no further archaeological investigations are necessary at this site.

LA25399 (AR141)

Description: The site consists of a lithic scatter and two talus boulders with overhangs which may have served as rockshelters. The site is located in a 5500 square meter area on a terrace overlooking Rio Chama to the west. Lithics were varied, including obsidian, chert, chalcedony and some quartzite. Flakes were predominantly small to medium-sized interior flakes. No groundstone was noted. A chert drill and a chert tool were collected previously. Three feature areas were observed. Feature A is a small boulder in a washout area containing dark ashy deposits within a hollowed out "alcove" on the north side. This boulder is too small to have provided human shelter but could have served as a windbreak for a fire. Feature B is a boulder with two shallow overhangs on the south and southwest sides, both of which have sandy fill, of which one appears ashy. One of the overhangs had some burned wood and charcoal from apparently recent use. A small lithic concentration was noted around the north side of the boulder. Feature C is a boulder with an alcove on the southwest side. It is shallow and no cultural deposits were noted. A lithic scatter, LA25362, was recorded on a narrow bench immediately south of this site and may in fact be part of the same site.

Cultural Affiliation: Unknown

Discrepancies: The rockshelter and ashy area described on the site form were located, but their location on the original site form does not correspond. No collectors' piles were noted.

Tasks Completed: Site Stake, Site Map, General Description, Artifact Density Study, and Integrity Determination.

Results: The site is estimated to be only 40% intact, and is in poor condition. It has undergone heavy water erosion which has created wash-out areas in the terrace. These wash-outs are up to 1.5 m deep where several small drainages meet. Livestock disturbance and washing action has impacted all of the overhang areas. Lithics were found to be somewhat sparse, although three small areas with a higher flake density were noted. Due to deflation, the wash-outs also tend to have a higher number of flakes. A radial transect artifact density study was conducted, and an average flake density of 0.8 flakes/square meter was found. One biface also occurred in a sample unit.

Management Recommendations: The severity of surface erosion indicates that a study of the surface artifacts may be unproductive. A surface collection is warranted, however; utilization of the radial transect technique, with 2 m diameter sample units spaced at 10 m intervals, would provide an adequate sample of the material types and stages of reduction represented. Also, all prepared tools should be collected. This task would require approximately 4 person hours to execute. Limited excavations at the two natural shelters designated Feature A and B might yield chronometric and subsistence data for the site. Since the integrity of the subsurface fill is uncertain, it is suggested that only one centiare be excavated at Feature A, and two centiares, non-randomly located, be excavated at Feature B. These excavations will require approximately 2 person days to complete.

LA25431 (AR173)

Description: This site was originally described as a 37,800 square meter complex of five structures and features with associated Tewa and micaceous ceramics and lithic material. Only Feature A--a rectangular rubble mound of sandstone--and a lithic scatter were relocated.

Cultural Affiliation: Navajo

Discrepancies: Features B through E were not relocated, and no ceramics were observed.

Tasks Completed: Site Stake

Results: The site is in good condition, and is estimated to be 95% intact. Artifacts are abundant, and little downslope movement has probably occurred.

Management Recommendations: While not all of the features previously recorded were relocated, it would be premature to conclude that they have been destroyed. This site was designated in the work plan as a "stake only" site, so on the initial visit only a brief period of time was spent trying to locate the features. Subsequent to

this visit, the site was selected as an "extra" site for which to complete management recommendations. The site was revisited, but unfortunately, efforts were not made to locate all features. This site is recommended for surface collection and excavations. The site's size and high artifact density indicates that a 10% sample would provide a large sample with which to study the lithic technologies and distributions at the site. The site's area has been previously estimated at 37,800 square meters; a 10% sample, using 2 m by 2 m grid squares, would result in the location and collection of 945 squares, which would take approximately 12 person days.

The five structures should be excavated prior to project impacts. This will entail the excavation of approximately 40 square meters, and will require approximately 25 person days to complete.

LA25442 (AR208)

Description: The site is a 14,400 square meter obsidian and chert lithic scatter. Features consisting of accumulations of stones are present in the western end of the site. Their function is unknown, although it is doubtful that they are hearths. These features may be recent.

Cultural Affiliation: Unknown

Discrepancies: No hearths are evident, although they are mentioned in the original site records.

Tasks Completed: Site Stake and Determination of Dating and Subsistence Potential.

Results: LA25442 is in good condition, and is considered to be 100% intact. A 1 m by 1 m test unit was excavated in the eastern portion of the site. Charcoal was present in levels 3 to 5, and an apparent living surface was encountered 50 cm - 53 cm below present ground surface. An obsidian flake was also recovered from the centiare.

Management Recommendations: That a compact, gray level of soil, with reddish brown loam below it and reddish brown, charcoal-yielding loam above it was encountered subsurface, strongly suggests that buried structures and/or living surfaces are present. It is recommended that further testing be done at this site to verify the function of the encountered feature, to obtain--if possible--chronometric dates, and to determine the age and function of the rock piles on the western portion of the site. It is suggested that two 2 m by 1 m test trenches be excavated atop the rock piles. Most of the tests, however, should concentrate on the eastern portion of the site, in the area of the excavated centiare. One 2 m by 2 m test square could be located immediately adjacent to the excavated centiare; if this substantiates the presumed cultural nature of the feature, then the necessary number

of 2 m by 2 m test squares should be dug to completely expose the feature. In addition, at least 10 centiares should be scattered about the eastern portion of the site to detect the presence of other buried features. An estimated 34 square meters are proposed for excavation. This would require approximately 20 person days to complete. Excavations should be preceded by a complete mapping and collection of all surface artifacts, which would take an additional person day.

LA25491 (AR411)

Description: The site is a lithic scatter covering 3200 square meters on the banks of a drainage which is a tributary of the Rio Puerco. Artifacts consist of chert flakes of all sizes and stages of lithic reduction, cores, and a few hammerstones. One knife fragment and a worked tool were also noted on the original survey. Natural chert is abundant in the area.

Cultural Affiliation: Unknown

Discrepancies: No quartzite or basalt flakes or tools were noted.

Tasks Completed: Site Stake, and Determination of Dating and Subsistence Potential.

Results: This site is in good condition, having undergone minor impacts from livestock, downslope and channel erosion, and deflation. It is estimated to be 80% intact. A 1 m by 1 m test unit was excavated in an area of the site which appeared to have deep soils. One nonutilized chert interior flake was found in Layer B, as were three small ashy lenses and scattered charcoal flecks. Charcoal flecks were also present in the underlying stratum of decomposing sandstone and it is not known if the charcoal and ash are cultural. Four shovel holes were excavated 5 m from the test unit in each of the cardinal directions. All were culturally sterile.

Management Recommendations: Excavation of the centiare suggests that artifacts may extend as far down as 20 cm below the present ground surface, where a saprolitic soil was encountered. That artifacts and charcoal flecks are so deposited suggests that features such as hearths may be buried. Consequently, it is suggested that 10 additional centiares be excavated at the site at randomly selected locations to further illuminate the stratigraphy. These units may indicate areas of charcoal concentrations, may encounter features, or may indicate that further archaeological testing is unnecessary. This testing phase will require approximately 5 person days. Surface collections should also be conducted, to provide a sample of the material types present and their stages of reduction. This could be executed by either a 100% mapping and collection of the surface artifacts, or by conducting a radial transect sample, utilizing 2 m diameter sample units spaced at 10 m intervals. The collections would probably take between 1 to 2 person days to complete, depending upon the method used.

LA25496 (AR416)

Description: The site is a historic habitation area comprised of the remains of one large structure, one small oval-shaped sandstone circle with ashy fill, wood posts (four in line and at least two others elsewhere), and surface artifacts, including glass, Tewa pottery, sherds of porcelain dishes, metal, a shell button and a possible mano. Chipped stone on the site's surface indicates possible prehistoric use of the site as well. The site is 5000 square meters in size and is located on the first terrace above Rio Puerco.

Cultural Affiliation: Hispanic and unknown

Discrepancies: The metate mentioned on the original site form was not relocated. Feature 1 showed no evidence of being a jacal structure; all that remains is a wet-laid masonry corner 1.5 m high. The functional interpretations of Features 2 and 3 are questionable, and Feature 4 is probably natural. Chipped stone was also found on the site.

Tasks Completed: Site Stake and Integrity Determination.

Results: This site is in good condition, and is approximately 60% intact. The main structure (Feature 1) is in ruins, with only one corner remaining. The site has been impacted by livestock, burrowing, downslope and channel erosion, and deflation. Ashy areas are still apparent on the surface.

Management Recommendations: All temporally diagnostic artifacts on this site should be mapped and collected. This includes primarily Tewa pottery, glass, and porcelain. It is recommended that limited excavations be conducted in the probable habitation structure and the possible oven to verify the structure's function and to obtain architectural data. The excavation of a 2 m by 2 m square in Feature 1 and a centiare in Feature 2 should provide the desired information, and might also yield additional diagnostic artifacts. A couple of segments of the wooden posts comprising Feature 3, the corral, should be cut for possible tree-ring dating. The recommended work at this site will require approximately 4 person days to complete.

LA25497 (AR418)

Description: This site was originally recorded as a 7500 square meter lithic scatter with one hearth, and 40% to 50% obsidian. It could not be relocated.

Cultural Affiliation: Unknown

Discrepancies: The site was not relocated.

Tasks Completed: None

Management Recommendations: Since the site was not relocated, no recommendations are offered.

LA25524 (AR535)

Description: The site consists of a very sparse lithic scatter located on a bench to the south of the Rio Chama. Twenty-nine flakes of obsidian, chert and chalcedony and one obsidian projectile point base were noted in a 1560 square meter area. All but four flakes were interior flakes. No groundstone or features were found. Subsurface cultural material is possible due to the site's location on a level bench with deep soil.

Cultural Affiliation: Unknown

Discrepancies: No fire-cracked rock area was found, and more than 10 flakes were present. The site is much larger than the 16 square meters originally recorded.

Tasks Completed: Site Stake, Artifact Density Study, and Integrity Determination.

Results: Site LA25524 is in good condition, and is judged to be 90% intact. Some washing has occurred along the rim of the terrace, and minor deflation has taken place. Due to the sparsity of artifacts, all surface artifacts were mapped for the artifact density study. One point base and 29 flakes were found, for an overall density of 0.02 artifacts/square meter.

Management Recommendations: All surface artifacts should be collected prior to being subjected to planned project impacts. If a considerable amount of time passes between the 1982 site visitation and further investigations, the artifacts should be mapped again prior to collection. Since there appears to be the potential for buried cultural deposits, it is suggested that four centiares be non-randomly located at various locations on the site. The excavations and collection tasks will require approximately 3 person days to complete.

LA27003 (AR53)

Description: The site consists of a masonry structure, a hearth, and a ceramic scatter located atop a large sandstone ledge. An alignment of large boulders on the small bench below the ledge may represent a lambing pen. A widespread scatter of lithic artifacts is also present in the area. The total site area is 5750 square meters.

Cultural Affiliation: Navajo

Discrepancies: Feature 2 (a single stone slab structure) and the fire-cracked rock area were not relocated, nor were the manos which were noted previously observed.

Tasks Completed: Site Stake

Results: This site is in good condition, and is approximately 85% intact. Feature 3, the hearth, was excavated in 1979 (Beal 1980) and pollen, soil and flotation samples were recovered. These samples yielded little information.

Management Recommendation: Excavation of the masonry structure, thought to represent a habitation, and testing of the lambing pen would be in order. The entire habitation structure should be excavated, which will take approximately 14 person days. A single 2 m by 1 m trench located non-randomly in the lambing pen would provide additional data on its function. This test would take approximately 1 person day. In addition, it is suggested that 100% of the site's surface ceramics and lithics be collected. This task would take another 2 person days to complete.

LA27012 (AR249)

Description: This site was originally recorded as a circular stone structure with a central hearth associated with a 150 square meter scatter of obsidian, chert and quartzite flakes, two obsidian projectile points, a quartzite point tip, a basalt biface, petrified wood, and hematite concretions. Although a lithic scatter was found in the vicinity of this site as shown on the project map, several unrecorded lithic areas are also present in the area. No structure could be located.

Cultural Affiliation: Ute

Discrepancies: The site was not relocated.

Tasks Completed: None

Management Recommendations: Since the site was not relocated, no recommendations are offered.

LA27020 (AR257)

Description: The site is an extensive lithic scatter of chert, chalcedony, quartzite and obsidian (Polvadera Peak) flakes located on a mesa top due north of LA27023 (a rockshelter with fire hearth). Both sites are probably contemporaneous, at least for the Navajo occupation. A circular sandstone structure with standing walls approximately 0.5 m to 1 m high is located almost directly above the overhang of LA27023. The door of the structure opens to the east. Soil depth appears to be very shallow, and is no more than 15 cm - 20 cm deep in isolated spots. One plain buffware sherd was observed near the structure. An obsidian projectile point, a fire-cracked mano and a variety of ceramics were noted when the site was first recorded.

Cultural Affiliation: Navajo

Discrepancies: None

Tasks Completed: Site Stake

Results: The site is in good condition, with only minor impacts from cattle and downslope erosion. It is approximately 80% intact.

Bare sandstone bedrock is visible all around the structure indicating minimal soil depth.

Management Recommendations: That the soil on the site is so shallow suggests that extensive excavations would be unproductive. It would, however, be worthwhile to completely excavate the hogan interior. Considering the shallow soils, this task would take approximately 7 person days to complete. The contents of a previously located hearth, located 40 m north of the hogan, should also be collected. One hundred percent of the surface artifacts should be mapped and collected. This task will require approximately 4 person days to complete.

Spillway Crest Impact Unit

Seven sites are placed in this impact unit, and of those, two were selected for visitation and data recovery in this project. The sites in this impact unit will possibly be destroyed by heavy equipment involved in spillway construction. It is understood that avoidance of these sites for preservation will probably not be a viable management option, due to various engineering variables.

LA25536 (AR920-10)

Description: This multicomponent site consists of numerous rockshelters, structural features, hearths, and artifact concentrations situated along the top and edges of a terrace overlooking major drainages to the east and south. Pictographs are present in the largest rockshelter at the southwestern end of the site. Cultural fill in and near the rockshelters is quite ashy and appears to have depth. Artifacts found at the site were numerous in kind and quantity. Lithic flakes and tools, worked bone and ceramic sherds were present. Previously collected artifacts from the site include one Armijo projectile point fashioned from Polvadera Peak obsidian, two preforms, one Penasco micaceous sherd, and one Tewa Red sherd.

Cultural Affiliation: Late Archaic-early historic Navajo

Discrepancies: None

Tasks Completed: Site Stake, Site Map, Integrity Determination.

Results: The site is in good condition and 80% to 90% intact. Some rodent activity has impacted the fill in the rockshelters. Other impacts to the site include downslope erosion, off-road vehicle travel, and some heavy equipment/construction activity. The research potential at this site is very high due to the density and variety of artifacts, structures, and features.

Management Recommendations: If at all possible, this site should be preserved by avoidance. The site's large size and complex nature, in addition to its high research potential, will require an extensive data recovery program if avoidance is not feasible.

The first data recovery task that should be implemented is the mapping and collection of potsherds and prepared chipped stone tools, and a sample-oriented collection of the remaining artifacts. Excepted in this strategy are the surface artifacts present in rockshelters and structures, for 100% of all artifacts so located should be collected. An imaginary grid could first be superimposed over the site, utilizing 5 m by 5 m grid squares. This project's field personnel estimate the site to cover approximately 45,200 square meters. A 10% sample would require that 181 sample squares be located and entirely collected. This sampling scheme, while not preserving quite as much provenience information as would result from using smaller sample squares, will still provide adequate data on the distribution of artifact types across this very large site, and will be comparatively speedy to conduct. It is estimated that the task will require approximately 6 person days.

The next data recovery effort should concentrate on the excavation of all structures and overhangs. Four natural overhangs have been recorded at the site; one yielding an abundance of artifacts, bone, petroglyphs, and evidence of fire; one partially enclosed by a masonry wall; and two with no surficial evidence of human occupation. It is suggested that centiares be excavated in the two latter rockshelters to confirm that they do not possess buried cultural strata. This will require 1 person day. The large rockshelter with the rock art measures 10 m in length and is approximately 4 m deep. An initial test trench should be excavated, from approximately 1 m beyond the dripline to the back of the rockshelter. This will yield a continuous profile of the rockshelter's stratigraphy, will probably provide a large sample of artifacts and floral and faunal materials, and will provide a data base with which to evaluate the need for further excavations. Though the amount of time required to excavate the test trench is dependent upon the depth of cultural deposits, it is estimated that it could be dug in less than 20 person days. The remaining rockshelter, with a masonry enclosure measuring 2 m by 1 m, should be adequately tested if the interior of the structure is excavated to bedrock. This would take approximately 2 person days.

A total of three surface structures, representing habitation and storage activities have been recorded at the site. These should all be excavated. To dig the approximately 28 square meters will require about 20 person days.

In addition to the excavation of the rockshelters and surface structures, it is suggested that at least 40 centiares be excavated atop the level area, to test for subsurface materials. These units should be randomly located. It will take approximately 20 person days to complete their excavations.

Lastly, the rock art panels present on this site should be thoroughly recorded by photographs and illustrative techniques.

LA25569 (AR920-44)

Description: The site is a fairly dense, localized scatter of

light-colored cherts and obsidian. The site is located in a pinyon-juniper woodland on a gentle, west-facing slope. No cultural features are evident. The site has been impacted fairly heavily by off-road traffic and littering. Sandstone bedrock outcrops in several places on the site.

Cultural Affiliation: Unknown

Discrepancies: The site is located to the north of the boat launch road and to the west of the highway, not south (as stated on the site form) or north (as shown on the sketch map). There are probably several hundred artifacts on the site, not 65. Finally, the site is ca. 50 m E-W by 30 m - 40 m N-S, rather than 20 m diameter.

Tasks Completed: Site Stake, Determination of Dating Potential, and Determination of Subsistence Potential.

Results: This site has been heavily impacted by off-road vehicle travel, and downslope erosion. There is quite a bit of flagging tape on the site indicating that there may be potential danger to the site due to construction. Only 25% of the site is presently estimated to be intact, and the site, in general, is in poor condition.

A centiare was placed near a concentration of artifacts and excavated to a depth of 18 cm where sandstone bedrock was struck. Six flakes were recovered from the unit, one of which was Polvadera Peak obsidian. The rest were chert and chalcedony. Three shovel holes were excavated at the site each consistently hitting bedrock at 20 cm, or less, below the ground surface. No artifacts were recovered from the shovel holes. No prepared tools, cultural features or charcoal were observed either on the surface or in the subsurface investigations at this site. The obsidian that was present on the surface was 20% of the Polvadera Peak variety and 80% other. Lack of depth of cultural deposits suggests that the site's potential to yield subsistence and dating information is low.

Management Recommendations: The effects of construction on this site could probably be mitigated by a 100% mapping and collection of all surface artifacts, and by monitoring the removal of the soil above bedrock by heavy equipment. The soil should be removed in thin increments, and the resulting cut should be thoroughly examined by an archaeologist to detect buried cultural features. If these are found, their contents should be entirely excavated. The collection phase of data recovery will require approximately 2 person days, and the monitoring phase should require between 1 and 2 person days to complete.

Maximum Pool Impact Unit

A total of 51 sites in Groups 8 and 9 are located within this impact unit, nine of which have been selected as "task" sites and are discussed below. It is unlikely that the sites in this impact unit will ever be inundated. The scope-of-work indicates that no direct,

project-related impacts are likely to affect the sites in the Maximum Pool Impact Unit. As a result, fewer data recovery tasks are recommended, as these sites in most cases can be preserved for future studies. In most cases, it is suggested that the sites be periodically inspected by an archaeologist to keep track of the effects of erosion and possibly increased accessibility on the sites, and to recover important diagnostic artifacts or features as they become exposed. While the interval between visits could vary, it is suggested that one visit every three years would be adequate to ensure the site's preservation.

LA25343 (AR63)

Description: The site consists of a small localized lithic scatter located along the east rim above an intermittent drainage. The lithics were predominantly Polvadera Peak obsidian (only two chert flakes were noted) and all were interior except for one secondary flake. Two denser areas of lithics were noted within the site; one to the northwest of the datum and the other to the south-southeast of the datum. Lithics continue to the rim--no downslope wash was noted. One projectile point fragment was observed.

Cultural Affiliation: Unknown

Discrepancies: There is no evidence to support an Historic Ute cultural affiliation assignment. One previously unrecorded projectile fragment and chalcedony and chert flakes were observed on the site. Also, the site size is closer to 45 m by 30 m than 60 m by 30 m.

Tasks Completed: Site Stake, Artifact Density Study, Integrity Determination, Determination of Dating Potential, and Determination of Subsistence Potential.

Results: This site appears to be in good condition and 100% intact. Livestock use of the area and light deflation has impacted the site to a small extent. Surficial artifact density is quite high at 1.18 artifacts per square meter. In the central area of the site a centiare was placed and excavated to a depth of 20 cm below surface. Sixteen Polvadera Peak obsidian interior flakes were found in the top 4 cm of the unit in grass clumps. No cultural materials were found below 4 cm. No charcoal or subsurface features were present in the centiare. The site appears to be basically surficial, with little subsurface potential for yielding dating and subsistence data.

Management Recommendations: Since this site is not likely to be impacted by project developments, it should be preserved for future studies. It is suggested that the site be periodically revisited by an archaeologist in order to monitor the effects of erosion and increased accessibility, to collect diagnostic artifacts as they appear, and to ensure that important data are not lost. Intrasite surface artifact analysis would be productive at the site, and might be considered if future impacts warrant.

LA25391 (AR133)

Description: The site consists of several structural features and a lithic scatter with fire-cracked rock, ceramic sherds, and groundstone. It is located on a level bench area to the north of an intermittent drainage. Two circular stone alignments are situated along a low sandstone ledge. Both have been excavated, but not backfilled. Fire-cracked rock, ceramics, lithics and a charcoal stain were noted. One other previously excavated area was found approximately 30 m south of the ledge. A single wall about 1.5 m high was found near the rim just above the drainage. Lithics, including chert, obsidian, and chalcedony flakes, were widely but sparsely scattered along the bench. Several fire-cracked and fire-reddened rock areas were also observed.

Cultural Affiliation: Navajo

Discrepancies: More features are present on the site surface than were previously recorded and the site is smaller than shown on the topographic map.

Tasks Completed: Site Stake, Integrity Determination.

Results: Bedrock outcrops present in the area as well as channel washing actively indicate that the site has undergone heavy water erosion. Other impacts to the site include surface collection, downslope erosion, deflation and redeposition of cultural materials. Also, the majority of cultural material was found in association with the features which have already been excavated. These factors combine to classify the site as being in poor condition with only 25% remaining intact. Future analysis of surface artifacts will be severely limited by the sites poor condition. Two projectile point fragments and one diagnostic projectile point attributed to the Navajo have been previously collected from the site.

Management Recommendations: This site should be monitored periodically by an archaeologist to assess the effects of erosion and possibly increased visitation. No immediate data collection seems necessary, considering the work already completed at the site.

LA25404 (AR146)

Description: The site covers the edge of a mesa top above an intermittent drainage and its confluence with the Rio Chama. It consists of a lithic scatter and a possible cobble alignment, the latter of which is situated on the slope of a small arroyo. The cobble alignment has been somewhat disturbed by erosion. Lithics present at the site are predominantly obsidian interior flakes. Some of the obsidian is of the Polvadera Peak variety with chert and quartzite also present.

Cultural Affiliation: Ute

Discrepancies: The site is both larger and more disturbed than previously recorded. Also, the site was originally recorded as a 10 m diameter tipi ring and lithic area. The possible cobble alignment present on the site is only 6 m in diameter, and it is questionable that it is even cultural.

Tasks Completed: Site Stake, Integrity Determination.

Results: Livestock trampling, channel erosion, downslope erosion, woodcutting activities, and surface collection and redeposition of cultural materials (collector's pile) have all impacted this site. The site is in fair condition with an estimate of only 50% remaining intact. Lithics are sparse and no diagnostic artifacts have been found at the site.

Management Recommendations: This site should be preserved for future study. No data recovery is presently necessary, considering present and projected impacts. The site should be periodically revisited by an archaeologist, however, to monitor the effects of increased public use and erosion. If such impacts are determined to threaten the site, then further investigations will be warranted. Future intrasite analysis of surface artifact distributions may be productive, in spite of previous disturbances.

LA25410 (AR152)

Description: This site is located on the south side of Arroyo Seco directly below a steep cobble slope on a bench above the stream. A pedestrian bridge and marked trail crosses the Arroyo Seco near the site. The site appears to have been a temporary campsite area. Several hearth areas were observed with oxidized, fire-blackened and fire-cracked rock in small groups. Also observed was a thin lithic scatter of chert and Polvadera Peak obsidian and a thin sandstone grinding slab (not a metate; ground only in a small area). No diagnostic tools or ceramics were observed.

Cultural Affiliation: Unknown

Discrepancies: The site is much larger than indicated on the map. No ceramics were observed, and previously unrecorded hearths were found on the site surface.

Tasks Completed: Site Stake, Site Map, General Description, Artifact Density Study, Integrity Determination.

Results: Approximately 85% of this site is intact and in good condition. Livestock trampling and channel erosion have had minor impacts there. Artifacts were present on the site at the low density of 0.12 artifacts per square meter. One hundred percent of all obsidian observed on the surface was of the Polvadera Peak variety. Although no tools were observed, the presence of the hearths suggests that potential for the recovery of dating and subsistence information exists at this site. The site may also yield significant data concerning surface artifact distributions.

Management Recommendations: That the seven possible prehistoric hearths were not observed on previous site visitations and are presently in an eroded condition indicates that it would be appropriate to collect the hearth contents before they are completely destroyed. This task would require approximately 5 person days to complete. Otherwise, the site should be preserved and periodically revisited.

LA25413 (AR155)

Description: The site is a small campsite situated on a ledge below a steep cobble hill directly above an intermittent drainage. It consists of a scatter of flakes (chert, quartzite, and obsidian) and six hearths. Charcoal is very evident at one of these, Feature 1. The site has suffered from erosion by the nearby stream and from cattle activity on the site.

Cultural Affiliation: Anasazi

Discrepancies: No groundstone was observed, but more hearths than previously recorded were found at the site.

Tasks Completed: Site Stake, Integrity Determination.

Results: In general, this site is in good condition and approximately 80% intact. Forces which have impacted the site include livestock trampling, channel erosion, and downslope erosion. It is possible that several hearths near the stream have eroded downslope, but the remaining hearths have potential to yield dating and subsistence information about the site. A previously collected projectile point from this site has been assigned an Anasazi cultural affiliation. The site may yield significant data concerning surface artifact distributions.

Management Recommendations: Since three more hearths were noted than the original survey report indicated, it seems that the surface hearths are eroding. To prevent loss of dating and subsistence data, it is recommended that the six hearths be excavated. This task will require approximately 5 person days to complete. The site should be revisited periodically by an archaeologist to monitor the effects of erosion.

LA25427 (AR169)

Description: The site consists of a very large lithic scatter located atop a terrace. Immediately west of a graded dirt road which goes through the western portion of the site is a possible stone structure. This structure consists of a roughly circular alignment of basalt(?) boulders. Recent circular rock hearths are present on the eastern side of the site, overlooking Canones Creek.

Cultural Affiliation: Basketmaker II?/17th Century Navajo

Discrepancies: The previous site description omits mention of the recent hearths and a deteriorated, planed board structure on the eastern end of the site. The original site map omits site boundaries and roads. Also, no prehistoric hearth was noted on this visit.

Tasks Completed: Site Stake, Determination of Dating Potential and Determination of Subsistence Potential.

Results: Although impacted by a downslope erosion, deflation, a road, and recent camping and ranching activities, the site is in good condition and 90% intact. Surface obsidian is present in a variety of types. An obsidian projectile point fragment was previously collected from the surface of this site and has been classified as Basketmaker II or 17th century Navajo.

In order to test the subsurface deposits at the site a centiare was excavated to a depth of 30 cm in a red loess. Twenty-two flakes were recovered from the upper 20 cm of the unit with 18 of those from the top 10 cm. Towards the bottom of the centiare the soil became more chunky and rocky and no longer contained artifacts. A small window dug below the 30 cm level revealed more of the same. Four of the artifacts recovered from the centiare were interior obsidian flakes--one was utilized. Other artifacts included one chert core and chert/chalcedony primary, secondary, and interior flakes. The presence of a possible stone structure on the site indicates that the potential for recovery of dating and subsistence data is high.

Management Recommendations: This site should be preserved for future study. It should be periodically revisited to monitor the effects of erosion.

LA25474 (AR242)

Description: The site consists of a ceramic concentration of redware, blackware, micaceous, and black-on-white sherds. A possible fire pit was noted consisting of fire-reddened stones in a circle. No ash deposit was observed, however, and an ant hill right in the middle covers the whole circle. Located 11 m southeast of the datum, the fire pit is 0.8 m in diameter. Lithics at the site were very sparse--two chert and one obsidian flake--all found together in what appears to be a dirt and stone pile which is the result of grading or plowing. No groundstone was noted.

Cultural Affiliation: Navajo

Discrepancies: The site is smaller than previously recorded. No rock alignment or groundstone and very few lithics were found on this visit. Rock piles resulting from plowing may have been mistakenly recorded as a feature. The only historic artifacts noted were two sherds of porcelain dishes.

Tasks Completed: Site Stake, Determination of Dating Potential, and Determination of Subsistence Potential.

Results: The site has been fairly heavily impacted by historic-recent use of the area. In particular, impacts to the site are heavy livestock grazing, heavy equipment use, and probable surface collection. Currently, the site can only be considered to be in fair condition.

The central area of the site was tested by means of a centiare excavated to 40 cm below ground surface. One chalcedony flake and 15 ceramic sherds (Tewa Blackware, Tewa Redware, black-on-white ware, and micaceous utility ware) were found in the top 20 cm of the centiare in a sandy charcoal flecked soil. Below this the charcoal became sparser and was altogether absent by 30 cm below surface. One piece of bone of unknown origin was recovered at 35 cm below the surface. One possible feature was encountered by the excavator at approximately 20 cm below the surface. A small circular organic discoloration was originally interpreted as a post hole, pedestaled and not excavated. It may, however, be a decomposing root stain. Even if this is not a cultural feature, the subsurface deposits did yield ceramics in cultural, ashy fill, indicating a high potential for the recovery of dating and subsistence information.

Management Recommendations: While this site appears to have considerable research potential, it should be preserved for future studies. The site should be periodically inspected by an archaeologist.

LA25521 (AR532)

Description: The site is situated on a sage and cactus covered bench above the Rio Chama. It is a sparse scatter of obsidian, chert, and chalcedony flakes. From the site area, one has a commanding view of the Rio Chama.

Cultural Affiliation: Unknown

Discrepancies: The site is above the floodplain, not on the floodplain.

Tasks Completed: Site Stake, Determination of Dating Potential, Determination of Subsistence Potential.

Results: Some sheet erosion across the site and downslope erosion along the rim have impacted this site somewhat. The site, however, is in good condition and estimated to be 95% intact.

In a flat, open area near the rim a centiare was placed for the purpose of subsurface testing. The unit was excavated to a depth of 30 cm below surface. One Polvadera Peak obsidian interior flake was collected from the centiare as were seven chalcedony interior flakes. Although no actual cultural stratum was present, artifacts were found down to 30 cm below surface. Additionally, four test holes were excavated. All were found to be culturally sterile.

Management Recommendations: No immediate data recovery is recommended for this site. It should be periodically inspected by an archaeologist to monitor the effects of increased public use and erosion.

LA25532 (AR920-6)

Description: The site consists of a dense scatter of predominantly obsidian interior flakes with chert and chalcedony also present. Scattered fire-cracked and oxidized sandstone slabs and cobbles are spread across the most level area of the site, just upslope of the central and densest artifact area. One core and numerous chunks of raw material are present. No prepared tools or definite cultural features were noted.

Cultural Affiliation: Unknown

Discrepancies: The site extends south of the fence and does not end at the fence as indicated on the site map. There is no evidence that the cobble alignments at the south edge of the artifact scatter are recent.

Tasks Completed: Site Stake, Artifact Density Study, Integrity Determination, Determination of Dating Potential, and Determination of Subsistence Potential.

Results: Downslope erosion has impacted the entire site. A fence across the site and possible surface collection are other slight impacts. The site is in fair condition with only 60% of the site intact. Artifact density on the surface is quite high at 0.42 flakes per square meter. All of the obsidian observed on the surface is of the Polvadera Peak variety.

A centiare was placed in an area of artifact density, near fire-cracked rock, and excavated to a depth of 40 cm below surface. Artifacts were found in the aeolian topsoil and in a dark charcoal fleck-filled stratum underlying the topsoil. The lowermost 10 cm were culturally sterile with inclusions of decomposing sandstone. Nine obsidian flakes (one Jemez, six Polvadera Peak and two other), three chalcedony flakes, six chert flakes, one chert core, one chalcedony core, and one quartz crystal were recovered from the unit. In profile an apparent feature in the form of an ashy lens appeared in the north wall of the centiare. This unit contained a definite cultural stratum bearing charcoal and artifacts. The site's dating and subsistence potential is considered high.

Management Recommendations: The site has the potential to yield significant data concerning intrasite artifact distributions. It may also provide important temporal data, as both buried obsidian specimens and charcoal are present. The radiocarbon dates could be used to aid in the development of an obsidian hydration curve for the area. This information, however, may be obtainable at other sites in the project area that are subject to more profound impacts. Consequently, it is

suggested that this important site be preserved for future use. It should be periodically monitored by an archaeologist to assess erosion and other impacts.

Recreation/Fee Lands Impact Unit

Six "task" sites were selected from the 43 sites located in this impact unit, comprising Groups 10 and 11. Few impacts are anticipated to occur on sites on the Recreation/Fee Lands, so preservation rather than data recovery is stressed. Impacts will primarily result from erosion and increased visitation. As with sites in the preceding impact unit, it is recommended that these sites be periodically monitored by an archaeologist to ensure that erosion or illicit excavations do not destroy important data. The site inspections could be spaced at three year intervals.

LA25461 (AR229)

Description: The site consists of a widespread lithic scatter situated on the mesa rim to the north of the Rio Chama just across from its confluence with the Rio Puerco. The site parallels the rim for a distance of about 400 meters. Material appears to have been washed out as indicated by large areas of deflation and exposed bedrock. Flakes tend to be concentrated in the washed out area. Lithic material is predominantly white/red chalcedony with Polvadera Peak obsidian, grey chalcedony, and black/white chert also present. Approximately 90% of the flakes are interior, the rest secondary. Two fire-cracked rock areas were noted at the northwestern end of the site.

Cultural Affiliation: Unknown

Discrepancies: Previous recorders classified the site as being in good condition; it is in poor condition. Also, they did not mention impact from deflation.

Tasks Completed: Site Stake

Results: This site is in poor condition and only 10% intact. It has been impacted by livestock, downslope erosion, channel erosion, and deflation. The present distribution of flakes on the surface of this site is largely a result of erosional patterns--specifically, the redistribution of cultural materials due to deflation. The hearth area appears to be relatively intact.

Management Recommendation: That the site is eroding indicates that the hearth areas should be excavated to collect dating and subsistence data. The excavation of one 2 m by 1 m test trench through each of the hearth areas should be sufficient to prevent loss of their data. This task would require approximately 2 person days to complete. No other archaeological work is recommended for this site, except for periodic monitoring by an archaeologist.

LA25477 (AR245)

Description: The site is a very diffuse but extensive lithic scatter located along the top of a prominent ridgeline that is bisected by the present highway. Several areas of minor chert and obsidian concentrations were observed as well as a mano fragment, a projectile point base, and a small white chert projectile point. A prominent hearth area near a dune exhibited ash and charcoal. No other features were observed.

Cultural Affiliation: Basketmaker II

Discrepancies: The site is larger than previously recorded. The hearth with charcoal was not noted on the site form.

Tasks Completed: Site Stake, Artifact Density Study, Integrity Determination, Determination of Dating Potential, Determination of Subsistence Potential.

Results: This site has been impacted by a number of factors including vandalism, heavy equipment/construction activity, livestock trampling, and downslope erosion. With 80% of the site intact, it is characterized as being in fair condition. The surficial artifact density is sparse, only 0.15 artifacts per square meter. All obsidian present on the surface is of the Polvadera Peak variety. During a previous visit to the site, a projectile point was found and classified as Basketmaker II. A projectile point base, a small projectile point, and a mano were found during this revisit to the site, as was a charcoal filled hearth.

A centiare was located in the sand dune area near the hearth. The unit was excavated to bedrock which was reached at 55 cm below the surface. Artifacts were found all the way through the sandy soil of the test unit. Three small pieces of charcoal were also observed. In all, 76 artifacts were recovered from the centiare--Polvadera Peak obsidian, other obsidian, chalcedony, chert, and quartzite flakes. The depth of the cultural deposits and the charcoal present suggests a high potential for recovering dating and subsistence information at the site.

Management Recommendations: That the hearth near the sand dune was not previously recorded may indicate that it is eroding. Its contents should be collected to prevent loss of data. This task would require approximately 4 person hours. While other important data may be present at the site, it is suggested that the site be preserved. It should be periodically inspected to prevent loss of information to erosion or other impacts. If data loss is imminent, subsurface and surface investigations should be implemented.

LA25535 (AR920-9)

Description: The site is a quarry/lithic scatter area located on a ridgetop with an impressive view of nearly 360°. In the naturally occurring gravel deposits are chert, chalcedony, and quartzite nodules

which were probably procured at this site. Artifacts at the site were chert/chalcedony and Polvadera Peak obsidian flakes and one Polvadera obsidian projectile point base.

Cultural Affiliation: Unknown

Discrepancies: One previously unrecorded projectile point base was found.

Tasks Completed: Site Stake, Determination of Dating Potential, and Determination of Subsistence Potential.

Results: This site is presently in fair condition. It has been impacted by vegetative modification, off-road vehicle traffic, downslope erosion and deflation. Ten percent of all artifacts observed on the surface of the site were Polvadera obsidian; 100% of all obsidian observed was of this variety.

In order to test the subsurface potential of this site, a centiare was excavated to a depth of 20 cm below surface. A fairly uniform gravel with some soil mixed in was encountered. No artifacts, charcoal, or cultural features were observed. Two shovel holes were also excavated at the site. They exhibited similar gravels to what was found in the centiare. No cultural materials were recovered from the shovel holes. Dating and subsistence potential for the site is low.

Management Recommendations: The potentially diagnostic projectile point should be mapped and recovered. Otherwise, no immediate data recovery tasks are recommended. The site should be periodically revisited by an archaeologist to monitor potential impacts.

LA25540 (AR920-14)

Description: The site is a dispersed obsidian and chert lithic scatter situated on the western edge of a major drainage. Most artifacts are visible only in the two intermittent drainages which cross by the site. A power line crosses the southwest portion of the site.

Cultural Affiliation: Anasazi BMIII-PI

Discrepancies: The site extends on the other side of the power line.

Tasks Completed: Site Stake, Determination of Dating Potential, and Determination of Subsistence Potential.

Results: Downslope erosion and channel erosion as well as activities related to the power line and a two-track road beside it have impacted this site. It remains only in fair condition.

A centiare and four shovel holes were excavated at this site in order to inspect the subsurface. No artifacts, cultural features or

charcoal were encountered. The centiare was excavated through 30 cm of sand to a point where sandstone bedrock was reached. Test excavations indicate a low potential for recovering dating and subsistence data.

All of the obsidian present on the surface of the site is of the Polvadera Peak variety. The only prepared tool recovered from the surface was a projectile point base collected during previous investigations. This artifact has been assigned an Anasazi (BMIII-PI) cultural affiliation.

Management Recommendations: Efforts should be made to ensure the preservation of this site. It is suggested that the site be periodically visited by an archaeologist to monitor the effects of erosion and other impacts.

LA25565 (AR920-40)

Description: The site consists of a sparse scatter of chert and Polvadera Peak obsidian located on a gravel covered sandstone ledge in a pinyon-juniper woodland. No cultural features are apparent. Depth is unlikely due to the site's location on the sandstone ledge.

Cultural Affiliation: Unknown

Discrepancies: Many fewer artifacts were observed than were noted on the site form. Although the sketch map and topographic map correspond to the site's location, it does not match the topographic situation described on the site form with much accuracy.

Tasks Completed: Site Stake, Determination of Dating Potential, Determination of Subsistence Potential.

Results: This site is in excellent condition and estimated to be 100% intact. Slight downslope erosion is the only force to have impacted the site. No prepared tools or cultural features were observed on the surface. Surficial obsidian was 100% of the Polvadera Peak variety.

A centiare was located in an area of the site that appeared to have more depth than any other area. The unit was excavated to 32 cm below present ground surface where decomposing sandstone was reached. Under the shallow topsoil which contained organic matter in the form of pine duff, excavated soils were a compact sand. No artifacts, charcoal, or cultural features were encountered in the centiare.

Management Recommendations: No data recovery tasks are recommended for this site unless it becomes threatened by erosion or other potential impacts. It is suggested that the site be preserved. Like the other "task" sites in this impact unit, the site should be periodically revisited to monitor potential impacts.

LA27049 (AR713)

Description: The site is located on a high terraced knoll overlooking the Rio Puerco. Around the edges of the terrace there is a good quantity of natural chert nodules as well as chert flakes and cores. These are eroding downhill. In the central terrace area, the artifact scatter is generally sparser than on the edges. Chert flakes and cores are found there as well as two obsidian flakes and two small fire-cracked rock areas.

Cultural Affiliation: Unknown

Discrepancies: The fire-cracked rock areas were smaller than shown on the sketch map and no distinct hearths were observed (approximately ten pieces of fire-cracked rock scattered in the two areas was all that was observed). Also, no bifaces were noted at the site.

Tasks Completed: Site Stake, Integrity Determination, Determination of Dating Potential and Determination of Subsistence Potential.

Results: This site, although impacted by downslope erosion and deflation, is in good condition. It is approximately 75% intact. Only two obsidian flakes were found on the surface. These were both of the Polvadera Peak variety.

A centiare placed in one of the fire-cracked rock concentrations was excavated to 20 cm below surface where a compact homogeneous clay layer was struck. Three pieces of fire-cracked rock were found in the top 5 cm of the unit, but no artifacts, ashy soil or charcoal, or cultural features were observed. Three shovel holes were also excavated at the site. One located 2 m from the centiare yielded one chert interior flake from the first shovelful of soil removed, but nothing else. The other shovel holes, each located 40 m away from the centiare revealed no evidence of subsurface deposits. The site appears to have little potential for yielding dating and subsistence information.

Management Recommendations: No additional data recovery is recommended for this site unless erosion or other impacts threaten the site's integrity, at which point intrasite analysis of artifact distributions should be implemented. The site should be periodically visited by an archaeologist to assess its condition.

CHAPTER IV

SUMMARY AND FINAL RECOMMENDATIONS

Summary

Between April 26 and May 7, 1982, personnel from Nickens and Associates conducted limited data recovery investigations in the Abiquiu Reservoir Project Area for the National Park Service and the U.S. Army Corps of Engineers. The purpose of the fieldwork was to add to the extant data base on the cultural resources of the project area, with which to develop a management plan. Data recovery tasks were completed at 98 prehistoric and historic sites. This included all sites that could be relocated in the designated high priority Sediment Reserve, 20 year Flood Pool, and Conservation Pool Impact Units, and a 16% sample of the lower priority Remaining Flood Pool, Spillway Crest, Maximum Pool, and Recreation/Fee Lands Impact Units. The remaining sites, if relocated, were briefly inspected and staked. For a variety of reasons, 22 or 9% of the sites were *not* relocated. Lists of the sites located and not located are presented in Tables 8 and 9. A listing of the estimated frequency of artifact classes present at located sites requiring artifact density studies is presented in Table 10. Major discrepancies between previous site observations and our observations are presented in Table 11.

Field personnel conducted limited surface artifact analysis and test excavations. These data, coupled with previously recorded data, were the basis for the formulation of site specific management recommendations. These recommendations hopefully accurately reflect the nature of the potential project impacts and the fact that archaeological sites with integrity are fragile, non-renewable resources of considerable value to science and to our national heritage. The underlying goal behind the management recommendations was site preservation. In many instances, however, planned project impacts precluded site avoidance. Recommendations were then made to collect the types of data likely to be destroyed by project developments, while preserving those site constituents that are not likely to be affected. Execution of the management recommendations cannot in many instances be considered as final mitigation. To implement recommended excavations may, in some cases, expose previously undetected features or components that may warrant further research. As in the past, the archaeological investigations in the Abiquiu Reservoir Project Area should proceed in a steplike fashion, with constant re-evaluation of site potential in terms of site-specific investigations, and areal research needs.

Table 12 lists the recommendations for additional work. It is estimated that the completion of the recommended site investigations will require approximately 691 person days. It is emphasized that this figure is an approximation only. It does not account for items like transportation time, and of course is dependent upon site vagaries such as depth of cultural deposits. The total includes 144 person days for surface collection tasks, 549 person days for excavation, and 7½ days for other tasks. One additional task for sites that will be permanently

TABLE 8

LIST OF SITES ON WHICH TASKS WERE CONDUCTED

Sites with tasks done (n = 98)

25288	25379	25431	25465	25503	25536	27020
25289	25381	25435	25466	25505	25540	27023
25321	25391	25436	25468	25506	25565	27024
25323	25399	25437	25469	25507	25569	27025
25326	25400	25440	25472	25508	25574	27028
25328	25404	25442	25474	25510	25575	27030
25329	25410	25446	25477	25511	25576	27033
25330	25413	25447	25481	25512	27003	27034
25331	25418	25448	25483	25513	27004	27036
25333	25419	25449	25485	25518	27005	27038
25343	25421	25457	25486	25521	27006	27042
25344	25426	25461	25487	25524	27007	27043
25345	25427	25462	25491	25532	27016	27046
25358	25428	25463	25496	25535	27017	27049

Site found, but not cultural (n = 1)

27029

Looked for but not found (n = 4)

25497 25516 27012 27044

No topo map location for site (n = 2)

25351 27040

TABLE 9

LIST OF "STAKE-ONLY" SITES

Staked (n = 121)

6607	25383	25415	25473	25520	25543	25567
25335	25388	25416	25475	25522	25544	25568
25336	25389	25417	25478	25523	25545	25570
25337	25390	25422	25479	25525	25546	25571
25340	25392	25424	25480	25526	25549	25572
25342	25393	25425	25482	25527	25551	27010
25346	25394	25429	25484	25528	25552	27011
25347	25395	25430	25488	25529	25553	27013
25348	25396	25432	25490	25530	25554	27014
25355	25397	25433	25493	25531	25555	27015
25356	25398	25441	25494	25533	25556	27018
25357	25401	25443	25498	25534	25557	27019
25362	25405	25458	25499	25537	25559	27022
25372	25406	25459	25500	25538	25560	27026
25373	25407	25460	25502	25539	25562	27041
25377	25411	25464	25509	25541	25563	27045
25380	25412	25467	25517	25542	25564	27048
25382	25414					

Looked for but not found (n = 15)

25349	25387	25476	25501	25561	25577	27027
25367	25402	25489	25519	25566	27021	27047
25378						

No topo map location for site (n = 3)

27001	27002	27037
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TABLE 10

ESTIMATED AND ACTUAL FREQUENCIES OF ARTIFACT CLASSES
AT LOCATED SITES REQUIRING ARTIFACT DENSITY STUDIES

LA Site No.	Debi- tage	Bifaces	Scrapers	Drills	Projec- tile Points	Other Chipped Stone	Ground Stone	Hammer- stones	Ceramics
25288	201*	0	0	0	0	0	0	0	0
25289	29	0	0	0	0	0	0	0	0
25321	670*	0	0	0	0	0	0	0	4
25323	9050*	0	1	0	1	0	3	0	0
25328	15470*	3	0	0	2	0	0	0	0
25329	80*	0	0	0	0	0	0	0	0
25330	1055*	0	1	0	0	0	0	0	0
25331	73	0	0	0	0	0	0	0	0
25333	66*	0	0	0	0	0	1	0	154
25344	44*	0	0	0	1	0	0	0	0
25345	100*	0	0	0	0	0	0	0	0
25381	1307*	1	0	0	1	0	0	0	0
25418	29	2	0	0	1	0	0	0	0
25419	5500*	0	0	0	0	0	0	0	0
25421	17	1	1	0	0	0	0	0	0
25428	3300*	0	0	0	1	1	0	0	0
25435	2200*	0	0	0	1	0	0	0	0
25436	9	0	0	0	0	0	0	0	0
25440	130*	0	0	0	0	0	0	0	0
25446	1100*	1	0	0	0	0	0	0	0
25447	4000*	0	0	0	0	0	0	0	0
25448	830*	0	0	0	1	0	0	0	0
25449	4500*	0	0	0	1	0	0	0	0
25462	6200*	1	1	0	1	0	1	0	0
25463	25*	0	0	0	0	0	0	1	0
25466	40*	0	0	0	0	0	0	0	0
25468	12	0	0	0	0	0	0	0	0
25472	500*	0	0	0	0	0	0	0	0
25481	5	0	0	0	0	0	0	0	0
25483	10	0	0	0	0	0	0	0	0
25485	7500*	0	0	0	0	0	0	6	0
25486	35	0	0	0	0	0	0	0	12
25503	750*	0	0	0	1	0	0	0	0
25505	4500*	0	0	0	1	0	0	0	0
25506	75*	0	0	0	0	0	0	0	0
25507	4900*	0	0	0	0	0	0	0	0
25508	1	0	0	0	0	0	0	0	0
25510	5650*	0	0	0	0	0	0	0	0
25512	300*	1	0	0	1	0	0	0	1
25513	220*	0	0	0	0	0	0	0	0
25518	130*	1	1	0	0	0	0	0	0
25574	8600*	4	1	0	0	0	0	0	0
25575	600*	1	0	0	0	0	0	0	0

TABLE 10 (Cont'd)

ESTIMATED AND ACTUAL FREQUENCIES OF ARTIFACT CLASSES
AT LOCATED SITES REQUIRING ARTIFACT DENSITY STUDIES

LA Site No.	Debi- tage	Bifaces	Scrapers	Drills	Projec- tile Points	Other Chipped Stone	Ground Stone	Hammer- stones	Ceramics
27004	230*	0	0	0	0	0	0	0	0
27005	2800*	0	0	0	0	0	0	0	0
27006	240*	0	0	0	0	0	0	0	0
27007	4300*	1	0	0	1	0	0	0	0
27016	500*	0	0	0	1	0	0	0	0
27024	180*	0	0	0	0	0	0	0	0
27036	250*	0	0	0	0	0	0	0	0
27042	1440*	0	0	0	1	0	0	0	0
27043	33	1	0	0	1	0	0	0	0
27046	1600*	0	0	0	0	0	0	0	0

* = estimated

TABLE 11

MAJOR DISCREPANCIES BETWEEN PREVIOUS
OBSERVATIONS AND PROJECT OBSERVATIONS

LA Site No.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
25288			X		X						
25289	X	X									X
25321							X				
25323						X				X	
25326											
25328		X									
25329	X				X					X	
25330					X	X					X
25331			X								
25333			X							X	
25343		X								X	
25344			X								
25345											
25358											
25379					X						X
25381				X	X	X				X	
25391		X				X					
25399											X
25400	X	X									
25404			X								
25410			X								X
25413						X					X
25418				X	X						
25419					X						
25421					X						
25426						X					
25427					X	X					
25428			X	X							
25431					X						X
25435	X	X				X					
25436			X								
25437											
25440						X					
25442					X						
25446					X						
25447		X									X
25448	X	X									X
25449					X	X					
25457	X										
25461							X				
25462		X			X					X	
25463	X		X		X						X
25465					X						X
25466					X						

TABLE 11
(Cont'd)
MAJOR DISCREPANCIES BETWEEN PREVIOUS
OBSERVATIONS AND PROJECT OBSERVATIONS

LA Site No.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
25468											
25469		X									
25472					X						
25474		X			X						
25477		X				X					
25481	X	X			X						
25483							X				X
25485			X								X
25486		X			X						
25487											
25491											X
25496					X					X	X
25503			X		X						X
25505		X					X				
25506		X									
25507			X			X					
25508		X									X
25510			X								
25511								X			
25512		X									
25513			X								
25518	X										
25521	X										
25524			X		X						
25532	X										
25535										X	
25536											
25540											
25565											X
25569	X		X								
25574			X								
25575						X					
25576	X				X	X					
27003					X						X
27004											X
27005						X					
27006											
27007		X									
27016			X		X						
27017									X		
27020											
27023			X		X	X					
27024		X			X						X
27025					X						
27028	X										
27029								X			

TABLE 11
(Cont'd)
MAJOR DISCREPANCIES BETWEEN PREVIOUS
OBSERVATIONS AND PROJECT OBSERVATIONS

LA Site No.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
27030											
27033											
27034											
27036					X						
27038											X
27040											
27042				X							
27043			X							X	
27046					X						
27049					X						X

Key to Table 11

- (1) Previous data on site location is incorrect.
- (2) The site is smaller than previously described.
- (3) The site is larger than previously described.
- (4) No evidence of previously described impacts were observed.
- (5) Some previously recorded features were not relocated.
- (6) Previously unrecorded features were observed.
- (7) The site has eroded considerably since recording.
- (8) The locale is not considered an archaeological site.
- (9) The site may be part of another site.
- (10) Previously unrecorded artifact types were observed.
- (11) Previously recorded artifact types were not found.

TABLE 12

RECOMMENDATIONS FOR ADDITIONAL INVESTIGATIONS

LA Site No.	No Further Work	100% Artifact Collec- tion	Sample Artifact Collec- tion	Exca- vation	Periodic Revisi- tation	Monitor Heavy Equip- ment	Precise Mapping	Local Informant Interviews
25288			X	X			X	
25289	X						X	
25321			X	X				
25323		X		X			X	
25326		X		X			X	X
25328			X	X			X	
25329	X						X	
25330			X	X			X	
25331				X			X	
25333		X		X			X	
25343					X			
25344		X		X			X	
25345		X		X			X	
25358		X					X	
25379	X							
25381			X	X			X	
25391					X			
25399			X	X				
25400				X			X	
25404					X			
25410				X	X			
25413				X	X			
25418			X	X			X	
25419			X	X				
25421				X			X	
25426				X			X	
25427					X			
25428			X				X	
25431			X	X				
25435			X					
25436		X					X	
25437		X		X			X	
25440		X		X			X	
25442		X		X				
25446		X		X			X	
25447			X	X			X	
25448		X		X			X	
25449			X	X				
25457			X	X				
25461				X	X			
25462			X	X				
25463		X					X	
25465		X		X			X	

TABLE 12
(Cont'd)
RECOMMENDATIONS FOR ADDITIONAL INVESTIGATIONS

LA Site No.	No Further Work	100% Artifact Collec- tion	Sample Artifact Collec- tion	Exca- vation	Periodic Revisi- tion	Monitor Heavy Equip- ment	Precise Mapping	Local Informant Interviews
25466							X	
25468		X					X	
25469		X		X			X	
25472		X		X				
25474					X			
25477				X	X			
25481				X			X	
25483	X							
25485			X				X	
25486		X		X				
25487		X					X	X
25491		X		X				
25496		X		X				
25503		X						
25505			X	X			X	
25506		X					X	
25507			X	X			X	
25508	X							
25510			X	X			X	
25511	X							
25512		X		X			X	
25513		X					X	
25518			X	X			X	
25521					X			
25524		X		X				
25532					X			
25535			X		X			
25536			X	X				
25540					X			
25565					X			
25569		X				X		
25574			X	X			X	
25575		X		X			X	
25576		X		X			X	
27003		X		X				
27004		X		X			X	
27005			X	X			X	
27006		X						
27007			X	X			X	
27016			X	X				
27017	X							
27020		X		X				
27023		X		X			X	

TABLE 12
(Cont'd)
RECOMMENDATIONS FOR ADDITIONAL INVESTIGATIONS

LA Site No.	No Further Work	100% Artifact Collec- tion	Sample Artifact Collec- tion	Exca- vation	Periodic Revisi- tion	Monitor Heavy Equip- ment	Precise Mapping	Local Informant Interviews
27024		X		X			X	
27025			X				X	
27028		X		X			X	
27030				X			X	
27033		X		X				
27034		X					X	
27036			X				X	
27038			X				X	
27042			X				X	
27043		X						
27046			X	X			X	
27049					X			

obsidian for hydration studies and buried charcoal fragments for radiocarbon dating. The mitigation efforts proposed for the site should provide data on the site function, cultural/temporal affiliation, the technologies represented, and possibly a sample of the flora and fauna exploited. Most of the site's subsurface materials would be left undisturbed. Since most of the site is on relatively level terrain, wave damage should be minimal. If the subsurface tests indicate that destruction of important data is likely to occur, further excavations could be implemented, or the site could be covered with a protective layer of soil. The limited mitigative methods proposed would require approximately 7 person days of labor.

LA25326 (AR38)

Description: This site is thought to be the homestead of Juan de Dios, a freed Navajo slave who is known to have established a farm in the vicinity some distance from the major Hispanic settlements along the Puerco River. The site dates to the late nineteenth century, and is represented by the foundation remains of a probable house, two collapsed, large jacal structures, corrals, and several other outbuilding foundations. Surface artifacts are not abundant; scattered Tewa wares, Taos or Picuris sherds, white earthen wares, green glass, and square nails have been observed at the site.

Cultural Affiliation: Hispanic

Discrepancies: None

Tasks Completed: Site Stake, Integrity Determination.

Results: A small portion of the site, perhaps totalling 10% of the site area, has been previously inundated. Damage due to inundation appears to have been minor, however, and the rest of the site, including all of the structures, remains intact.

Management Recommendations: This site is in relatively good condition, in spite of the fact that the buildings' superstructures have deteriorated. The site's potential to yield information on Hispanic homestead architecture, material culture, subsistence patterns, and land use patterns seems high. Extensive excavations may be eventually justified at this site, but a prior testing program seems in order. This testing should be oriented towards discerning the function of the various structures, recovering additional temporally diagnostic artifacts, and further defining architectural details. The excavation of twenty square meters should be adequate to achieve these goals. At least one 2 m by 1 m test trench should be excavated in each of the five structures, to recover functionally diagnostic artifacts and soil samples. The remaining 10 square meters could be excavated in any trench size, at locations where field personnel feel the most information can be obtained. Utilization of a proton magnetometer might also be useful at the site, allowing for the definition of buried architectural features in lieu of extensive testing. This device might also locate hitherto unrecorded features such as privies, that are

yield perishable floral and faunal materials not preserved on open sites. The possibility exists that the site is stratified.

LA25480

No data recovery tasks were required for this site, as it was designated only for staking. Nonetheless, surface indications are that the site is very important. The site is horizontally extensive and has a high artifact density, and has numerous hearth areas and projectile points, as well as groundstone and what are tentatively identified as Gallina ceramics. The soils appear deep. The site's research potential is high. That possible Gallina ceramics are present adds to the site's significance.

LA25536

This site is horizontally extensive, has a high artifact density, has at least two rockshelters, one with rock art, and several surface masonry structures. The site has probably been utilized from Archaic into Navajo times, and so may be analyzed from both diachronic and synchronic perspectives.

LA27007

Artifacts were found at this site up to 40 cm below the present ground surface. This, and the site's large size and artifact concentrations, suggests that a considerable amount of information can be obtained at the site. Obsidian specimens are present subsurface; these may be correlated with radiocarbon dates possibly obtained at the site to further the refinement of obsidian hydration as a dating technique in the project area.

LA27023

Present on this site are two sandstone overhangs, hearths, projectile points, and ceramics. The site is likely to yield important dating and subsistence data that may be useful for both synchronic and diachronic studies.

Civilian Conservation Corps Camp

This site has not been recorded to date, since it was constructed relatively recently, in the 1930's. The site nonetheless represents an important episode in American history. It is in relatively good condition, is very large, and probably will not be impacted by project developments. These facts, and the site's location along U.S. Highway 84, may make this site valuable for public visitation and interpretation.

Recommendations for Future Work

Completion of the tasks recommended for the 98 sites discussed in this report will by no means conclude archaeological investigation in the project area. This work may represent final mitigation of some sites, but may point to the need for further work at others. To guide future work, a project-wide research design needs to be formulated. Formulation of such a document will ensure maximum recovery of important data and will aid in determinations of which sites need further investigation. Research designs greatly facilitate determinations of site significance. In addition to a project research design, site specific research designs will need to be prepared at sites requiring extensive excavations. It is suggested that both types of research design address the need for refinement of culture history, particularly through the refinement of projectile point chronologies and obsidian hydration dating. It is also suggested that the research designs stress a multidisciplinary approach; malacological and geoarchaeological investigations could provide important lines of data in rockshelter excavations, for example.

The extent of future investigations at sites in the Abiquiu Reservoir Project Area should not be limited by ease of access. None of the sites visited were particularly difficult to get to, although some walking and packing in of excavation equipment was necessary. Also, future investigations should not assume that all cultural resources were located in the previous inventories. A number of unrecorded sites were encountered by our field crews; time constraints, however, precluded their recording.

The Abiquiu Reservoir Project Area contains a diversity of cultural resources, spanning many thousands of years. The data base on the 275 cultural resources in the project area is extensive, allowing for the formulation of complex questions concerning human adaptations along the Rio Chama. Hopefully, this document will aid in the preservation of these important resources and the important scientific data that they possess.

REFERENCES CITED

- Beal, John D.
1980 1979 Sample and Site Specific Testing Program at Abiquiu Reservoir. Ms. on file at the School of American Research. Santa Fe.
- Burns, George R.
1981 Obsidian Hydration Analysis on Artifacts from the Rio Grande National Forest. Unpublished thesis on file at the Department of Anthropology, Colorado State University, Fort Collins.
- Cohen, Mark N.
1977 The Food Crisis in Prehistory. Yale University Press. New Haven.
- Hester, James J.
1962 Early Navajo Migrations and Acculturation in the Southwest. Navajo Project Studies 5. Museum of New Mexico Papers in Anthropology 6. Santa Fe.
- Hibben, Frank C.
1937 Excavation of the Riana Ruin and Chama Valley Survey. Anthropological Series 2(1). University of New Mexico Press. Albuquerque.
- Judge, W. James
1973 Paleolndian Occupation of the Central Rio Grande Valley in New Mexico. University of New Mexico Press. Albuquerque.
- Irwin-Williams, Cynthia
1973 The Oshara Tradition: Origins of Anasazi Culture. Eastern New Mexico Contributions in Anthropology 5(1). Portales.
- Klager, Karol J.
1960 Archaeological Survey of the Remaining Corps of Engineers Project Land at Abiquiu Dam, New Mexico. School of American Research. Santa Fe.
- Lenihan, Daniel J. et al.
1977 The Preliminary Report of the National Reservoir Inundation Study. National Park Service, Southwest Cultural Resources Center. Santa Fe.
- Mera, H.P.
1940 Ceramic Clues to the Prehistory of North Central New Mexico. Laboratory of Anthropology Technical Series No. 8. Laboratory of Anthropology. Santa Fe.

Peckham, Stewart

- 1959 The Palisade Ruin, LA3505, Archaeological Salvage Excavations near the Abiquiu Dam, Rio Arriba County, New Mexico. Ms. on file at the Museum of New Mexico. Albuquerque.

Perret, William P.

- 1960 Ghost Ranch Archaeological Dig I - 1979, Site AR-133D. Ms. on file at the School of American Research. Santa Fe.

Schaafsma, Curtis F.

- 1974 Final Report on a Survey of Abiquiu Reservoir. Ms. on file at the School of American Research. Santa Fe.

- 1975 Archaeological Survey and Excavation at Abiquiu Reservoir. Ms. on file at the School of American Research. Santa Fe.

- 1976 Archaeological Survey of Maximum Pool and Navajo Excavations at Abiquiu Reservoir, Rio Arriba County, New Mexico. Ms. on file at the School of American Research. Santa Fe.

- 1977 Archaeological Excavations and Lithic Analysis in the Abiquiu Reservoir District, New Mexico, Phase IV. Ms. on file at the School of American Research. Santa Fe.

- 1978 The Mechanical and Chemical Effects of Inundation at Abiquiu Reservoir. Ms. on file at the School of American Research. Santa Fe.

- 1979 The Cerrito Site (AR 4), a Piedra Lumbre Phase Settlement at Abiquiu Reservoir. School of American Research. Santa Fe.

Spencer, Robert F. and Jesse D. Jennings, et al.

- 1977 The Native Americans. Second edition. Harper and Row, Publishers. New York.

APPENDIX A
CATALOG OF COLLECTED ARTIFACTS

LA Site #.	F.S. No.	Shovel Hole No.	Level	Item(s)
25288	1		I	1 smoky obsidian interior flake 1 streaked grey obsidian secondary flake
25328	1		surface	5 chert interior flakes 1 chert secondary flake
25328	2		I	1 smoky obsidian interior flake 3 clear obsidian (2 int. 1 sec) flakes 6 Polvadera interior flakes 4 quartzite interior flakes 30 chert interior flakes 2 chert secondary flakes 1 chert primary flake 1 chert core
25328	3		II	1 quartzite interior flake 1 chert primary flake 2 chert secondary flakes 12 chert interior - 1 utilized flakes
25333	1		I	1 Tewa Black on White jar sherd
25343	1		I	16 Polvadera obsidian interior flakes
25344	1		I	3 Polvadera obsidian interior flakes 1 other obsidian interior flake 1 chert secondary flake 2 chert interior flakes
25344	2		II	2 Polvadera obsidian interior flakes 1 other obsidian interior flake
25345	1		I	2 chert interior flakes 16 Polvadera obsidian interior - 2 util. flakes 1 other obsidian interior flake 1 Polvadera obsidian secondary flake
25345	2		II	7 Polvadera obsidian interior flakes
25345	3		III	1 Polvadera obsidian int. - util. flake 1 other obsidian interior flake

LA Site #	F.S. No.	Shovel Hole No.	Level	Item(s)
25426	1		I	1 Vadito micaceous sherd
25426	2		II	1 piece of bone
25426	3		III	1 Red-on-buff jar sherd
25427	1		I	3 obsidian interior - 1 util. flakes 2 chert interior flakes 2 chert secondary flakes 2 chalcedony interior flakes 4 chalcedony secondary flakes 5 chalcedony primary flakes
25427	2		II	1 chert core 1 obsidian interior flake
25427	3		III	1 chalcedony interior flake
25435	1		I	1 chalcedony interior flake
25442	1		II	1 Polvadera obsidian interior flake
25447	1		I	3 chalcedony interior flakes 1 quartzite interior flake
25447	2		II	1 chalcedony secondary flake
25448	1		I	1 chalcedony secondary flake 3 Polvadera obsidian interior flakes
25448	2		II	1 chert interior flake
25449	1	south 6		1 obsidian interior - utilized flake 3 chalcedony interior flakes
25462	1		I	1 obsidian projectile point midsection
25462	2		I	5 Polvadera obsidian interior flakes 3 chalcedony interior flakes
25462	3		II	2 chalcedony secondary flakes 2 chalcedony interior flakes
25469	1		I	1 obsidian interior flake 1 chalcedony secondary flake 8 chalcedony interior flakes

LA Site #	F.S. No.	Shovel Hole No.	Level	Item(s)
25469	2		II	1 obsidian interior flake 1 chalcedony interior flake 1 chalcedony secondary flake 1 chalcedony core
25469	3		III	1 chalcedony interior flake
25469	4		IV	1 chalcedony interior flake
25474	1		I	1 Tewa Polychrome bowl sherd 1 Tewa Red rim sherd 1 Tewa Black rim sherd 1 Tewa Red on Buff bowl sherd 2 Vadito micaceous sherds 1 plain culinary micaceous sherd 1 Tewa Black on White sherd 2 unidentified grayware sherds 1 unidentified buff sherd
25474	2		I	1 chalcedony interior flake
25474	3		III	2 Tewa Red sherds 2 Penasco micaceous sherds
25474	4		IV	1 piece of bone
25477	1		surface	1 chalcedony interior flake 1 Polvadera obsidian interior flake 1 other obsidian interior flake
25477	2		I 0-20 cm level	2 chalcedony flakes 17 Polvadera obsidian interior flakes 2 other obsidian interior flakes
25477	3		II	10 Polvadera obsidian interior flakes 4 other obsidian interior flakes 3 chalcedony interior flakes 1 chert interior flake 2 quartzite interior flakes
25477	4		IV	1 chert interior flake 3 chalcedony interior flakes 1 quartzite interior flake 1 quartzite secondary flake

LA Site #	F.S. No.	Shovel Hole No.	Level	Item(s)
				7 other obsidian interior flakes
				14 Polvadera obsidian interior flakes
25477	5		V	1 chert interior flake 1 chalcedony interior flake 1 Polvadera obsidian interior flake 2 other obsidian interior flakes
25491	1		II	1 chert interior flake
25503	1		surface	3 Polvadera obsidian interior flakes 1 chalcedony interior flake
25503	1		I	4 Polvadera obsidian interior (1 utilized) flakes 1 Polvadera obsidian secondary flake
25507	1		surface	11 chalcedony interior flakes
25507	2		I	1 obsidian interior flake 1 quartzite interior flake 2 chalcedony secondary flakes 3 chert interior flakes 37 chalcedony interior flakes
25507	3		II	4 chalcedony interior flakes
25507	4		III	1 chalcedony interior flake
25510	1		I	2 chert interior flakes 2 chalcedony secondary flakes 4 chalcedony interior flakes 26 Polvadera obsidian interior flakes 1 Polvadera obsidian secondary flake
25510	2		II	3 Polvadera obsidian interior flakes 1 chert secondary flake
25510	3	SW-40m		2 chalcedony interior flakes
25518	1		I	4 Polvadera obsidian interior flakes

LA Site #	F.S. No.	Shovel Hole No.	Level	Item(s)
25518	2		II	3 Polvadera obsidian interior flakes
25518	3		III	3 Polvadera obsidian interior flakes
25521	1		I	1 obsidian interior flake
25521	2		II	5 chalcedony interior flakes
25521	3		III	2 chalcedony interior flakes
25532	1		I	1 Jemez obsidian interior flake 4 Polvadera obsidian interior flakes 2 other obsidian interior flakes 1 chalcedony interior flake 1 chert interior flake 2 chert secondary flakes 1 quartz crystal secondary flakes
25532	2		II	1 Polvadera obsidian interior flake 2 chalcedony interior flakes 1 chert secondary flake 1 chert interior flake
25532	3		III	1 Polvadera obsidian interior flake 2 chalcedony secondary flakes 1 chalcedony core 1 chert core
25569	1		I	1 obsidian interior flake 1 chert interior flake
25569	2		II	2 chalcedony interior flakes 2 ARTIFACTS MISSING (chipped stone)
25574	1		I	1 Polvadera obsidian interior flake 1 chalcedony interior flake 3 chalcedony secondary flakes 1 chert primary flake

LA Site #	F.S. No.	Shovel Hole No.	Level	Item(s)
27004	1		I	1 Polvadera obsidian interior flake
27004	2		II	1 chalcedony interior flake 1 chert interior flake
27004	3		III	1 chert interior flake
27007	1		I	1 siltstone interior flake 1 quartzite interior flake 8 chalcedony interior - 1 util. flakes 1 chalcedony secondary flake 1 chert secondary flake 3 chert interior flakes
27007	2		II	2 chalcedony interior flakes
27007	3		III	1 quartzite interior flake 1 chert interior flake 2 chalcedony interior flakes
27028	1		I	2 chalcedony interior flakes
27043	1		I	1 obsidian projectile point fragment 1 chalcedony interior flake
27049	1	N-2m		1 chert interior flake

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